CCD-TR86/TR96/TR506/TR506PK/TR507/TR916(NTSC)
CCD-TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E(PAL)
RMT-713

SERVICE MANUAL

Photo : CCD-TR506E

video 8
Handycam

B MECHANISM

US Model
CCD-TR86/TR96/TR916(NTSC)
Canadian Model
CCD-TR86/TR96(NTSC)
AEP Model
UK Model
CCD-TR501E/TR502E/TR620E(PAL)
E Model
CCD-TR506/TR507(NTSC)
CCD-TR501E/TR502E/TR503E/
TR506E/TR720E/TR740E(PAL)
Australian Model
CCD-TR501E/TR503E(PAL)
Hong Kong Model
CCD-TR503E/TR720E(PAL)
Tourist Model
CCD-TR501E(PAL)

- CCD-TR506PK is model that carring bag are added in CCD-TR506.
- CCD-TR506PK is different from CCD-TR506 only in the accessory and packing materials.

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ " (9-973-801-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system
Two rotary heads, Helical scanning, FM system
Audio recording system
Rotary heads, FM system
Usable cassette
8 mm video format cassette (standard 8 mm)
Recording/Playback time
SP mode: 1 hour and 30 minutes
LP mode: 3 hours
Fastforward/rewind time
Approx. 5 min.
Image device
CCD (Charge Coupled Device)
Colour temperature
Auto
Recommended illumination
More than 100 lux

Input and Output connectors

Video output
Phono jack, 1 Vp-p, 75 ohm, unbalanced
RFU DC OUT
Special minijack, DC 5 V
LANC control jack
Stereo mini-minijack (ø 2.5 mm)
MIC jack
Minijack, 0.388 mV, low impedance with 2.5 to 3 V DC output, impedance 6.8 kilohm (ø 3.5 mm)

General

Power requirements
7.5 V (AC power adaptor)
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (Approx.)
111 x 105 x 200 mm (4 3/8 x 4 1/8 x 7 7/8 inches) (w/h/d)
Microphone
Electret condenser microphone, monaural type

AC power adaptor

Power requirements
110 – 240 V AC, 50/60Hz
Power consumption
AC-V16/V17: 20 W
AC-V16A/V17A: 22 W
Output voltage
DC OUT in operation mode
7.5 V, 1.8 A
Battery charge terminal
10 V, 1.1 A in charge mode
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (Approx.)
166 x 43 x 75 mm (6 5/8 x 1 11/16 x 3 inches) (w/h/d) including projecting parts and controls
Mass (Approx.)
AC-V16: 420 g (15 oz)
AC-V16A: 450 g (16 oz)
AC-V17: 460 g (16 oz)
AC-V17A: 490 g (17 oz)

Design and specifications are subject to change without notice.

— Continued on next page —

8 VIDEO CAMERA RECORDER

MICROFILM

SONY®

NTSC MODEL

Model	TR86	TR96	TR506	TR507	TR916
Video signal	NTSC color,EIR standards				
Viewfinder Electronic viewfinder	Colour				
Lens Combined power zoom lens, F1.4-2.4 Filter diameter 37mm (1 1/2inches)	15 × (Optical), 30 × (Digital)		15 × (Optical), 180 × (Digital)		15 × (Optical), 30 × (Digital)
Forcal distance f=4.1-61.5mm (3/16-2 1/2inches)	When converted to 35mm still camera 39-585mm (1 9/16-23 1/8inches)	When converted to 35mm still camera 47-705mm (1 7/8-27 7/8inches)	When converted to 35mm still camera 39-585mm (1 9/16-23 1/8inches)		When converted to 35mm still camera 47-705mm (1 7/8-27 7/8inches)
Minimum illumination	0.6 lux at F1.4	2 lux at F1.4	0.4 lux at F1.4		2 lux at F1.4
Illumination range	0.6 to 100,000 lux	2 to 100,000 lux	0.4 to 100,000 lux		2 to 100,000 lux
Audio output 327mV, (at load impedance 47 kilohm), impedance less than 2.2 kilohm	Monaural,Phone jack		Phone jack (2: stereo L and R)		Monaural,Phone jack
Average power consumption	3.4W	3.5W	3.4W		3.5W
Mass (Approx.)	1 id 11 oz (780g) Excluding the batter pack, lithium battery, cassette and shoulder strap 2 id 3 oz (1kg) Including the battery pack NP-33,lithium battery CR2025,cassette P6-120 and shoulder strap				
Application	Sony battery pack NP-33(supplied), NP-60D,NP-C65,NP-68,NP-78, NP-80/80D,NP-98/98D				

PAL MODEL

Model	TR501E	TR502E	TR503E	TR506E	TR620E	TR720E	TR740E
Video signal	PAL color, CCIR standards						
Viewfinder Electronic viewfinder	Black and white		Colour		Black and white	Colour	
Lens Combined power zoom lens, F1.4-2.4 Filter diameter 37mm (1 1/2inches)	15 × (Optical)	15 × (Optical), 180 × (Digital)	15 × (Optical)	15 × (Optical), 180 × (Digital)	15 × (Optical), 30 × (Digital)	15 × (Optical),180 × (Digital)	
Forcal distance f=4.1-61.5mm (3/16-2 1/2inches)	When converted to 35mm still camera 39-585mm(1 9/16-23 1/8inches)				When converted to 35mm still camera 47-705mm (1 7/8-27 7/8inches)		
Minimum illumination	0.4 lux at F1.4				0.7 lux at F1.4		
Illumination range	0.4 to 100,000 lux				0.7 to 100,000 lux		
Audio output 327mV, (at load impedance 47 kilohm), impedance less than 2.2 kilohm	Monaural, Phone jack			Phone jack (2: stereo Land R)	Monaural, Phone jack	Phone jack (2:stereo L and R)	
Average power consumption	3.3W			3.4W	3.5W	3.7W	
Mass (Approx.)	1 id 11 oz (770g) Excluding the batter pack, lithium battery, cassette and shoulder strap 2 id 2 oz (990g) Including the battery pack NP-33,lithium battery CR2025,cassette P5-90 and shoulder strap					1id 11 oz (780g) Excluding the batter pack, lithium battery, cassette and shoulder strap 2 id 3 oz (1kg) Including the battery pack NP-33,lithium battery CR2025,cassette P5-90 and shoulder strap	
Application	Sony battery pack NP-33(supplied), NP-55H,NP-C65,NP-66,NP-67,NP-77H, NP-78,NP-98						

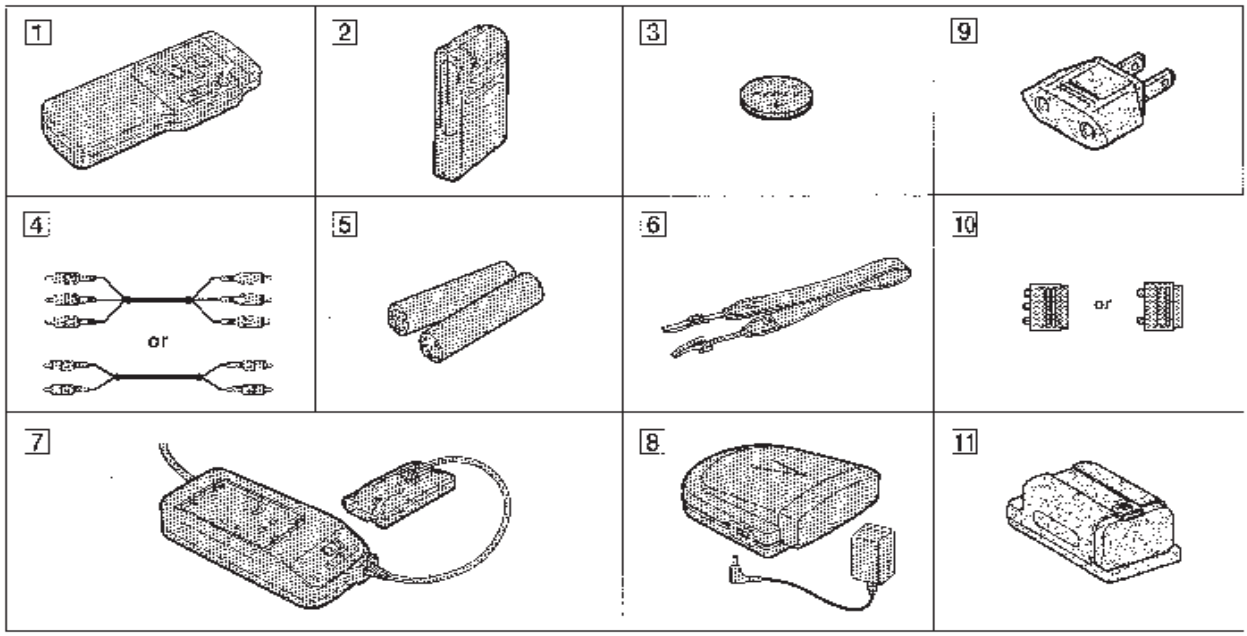
• Table for difference of functions

Model	TR86	TR96	TR506	TR507	TR916	TR501E	TR502E	TR503E	TR506E	TR620E	TR720E	TR740E
Signal	NTSC	NTSC	NTSC	NTSC	NTSC	PAL	PAL	PAL	PAL	PAL	PAL	PAL
Destination	US/CND	US/CND	E	E	US	AEP/UK/E/AUS/JE	AEP/UK/E	E/AUS/HK	E	AEP/UK	E/HK	E
Viewfinder	COLOR	COLOR	COLOR	COLOR	COLOR	B/W	B/W	COLOR	COLOR	B/W	COLOR	COLOR
Digital zoom	O (30×)	O (30×)	O (180×)	O (180×)	O (30×)	×	O (180×)	×	O (180×)	O (30×)	O (180×)	O (180×)
Wide mode	O	O	O	O	O	×	O	×	O	O	O	O
Steady shot	×	O	×	×	O	×	×	×	×	O	O	O
Audio	MONO	MONO	STEREO	STEREO	MONO	MONO	MONO	MONO	STEREO	MONO	STEREO	STEREO
Video Light	O	O	×	×	O	×	×	×	×	×	×	×
IR	O	O	×	O	O	×	×	×	×	×	×	O
IR Reciver	×	×	×	O	×	×	×	×	×	×	×	O

Abbreviation
CND : Canadian model
AUS : Australian model
HK : Hong Kong model
JE : Tourist model
IR : Infrared communication
B/W : Black and white

Checking supplied accessories

Check that the following accessories are supplied with your camcorder.



1 **Wireless Remote Commander (1)**
2 **NP-33 Battery Pack (1)**
3 **CR2025 Lithium Battery (1)**
Already installed in the camcorder.
4 **A/V connecting cable (1)**
5 **R6 (size AA) battery for Remote Commander (2)**
6 **Shoulder strap (1)**
7 **AC-V16/V16A/V17/V17A AC power adaptor (1)**
8 **AV cordless IR receiver (1) and AC power adaptor (1)**
CCD-TR507/TR740E only
9 **Adaptor conversion 2P (1)**
Hong Kong only
10 **21-pin adaptor (1)**
AEP only
11 **Battery case (1)**
CCD-TR86/TR96/TR501E/TR502E/TR620E only

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, par-ticularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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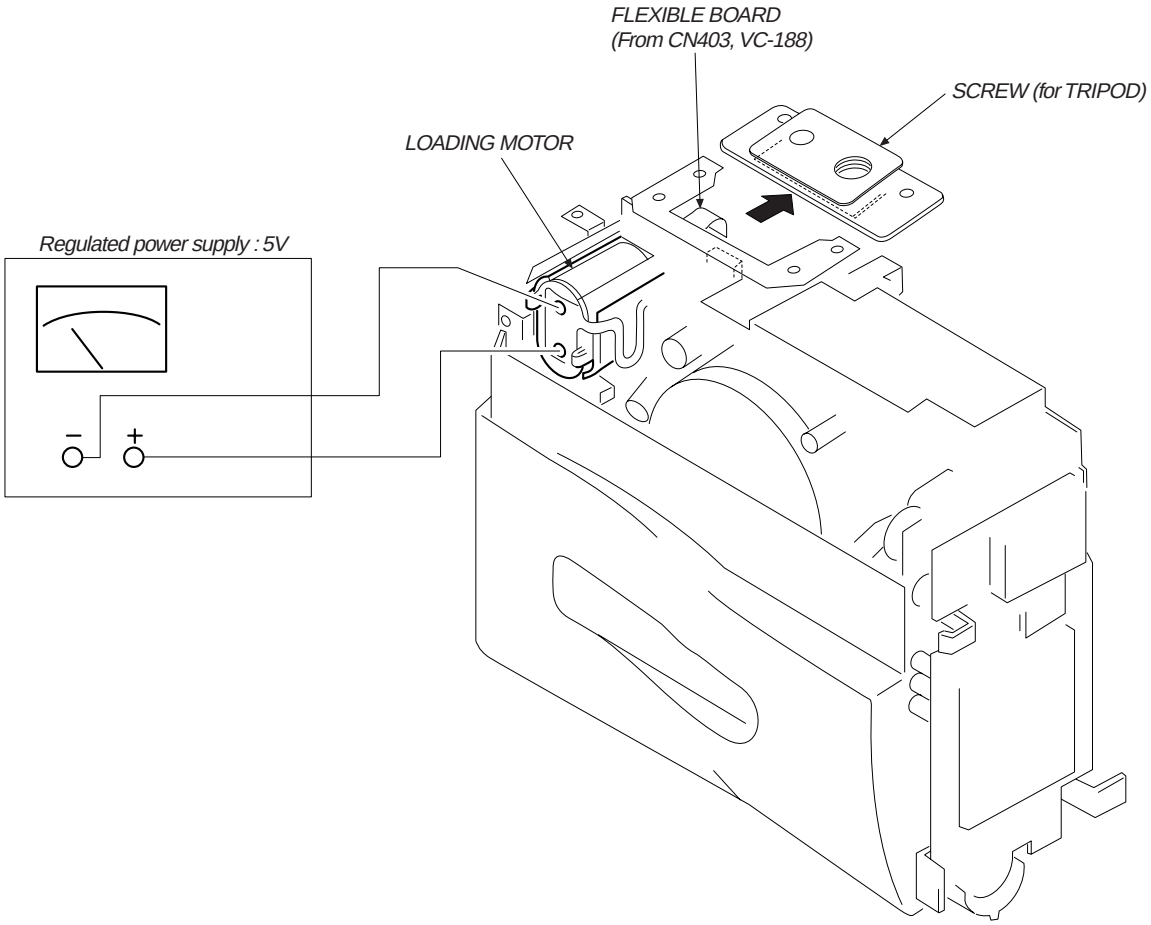
* The color reproduction frame is shown after the page of ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS.

SERVICE NOTE

NOTE : To eject a cassette from the camcorder without turning on the main power, firstly remove the SCREW (for TRIPOD), then remove the FLEXIBLE BOARD as shown, and finally connect the regulated power supply ; +5V to the loading motor, this is to protect the main circuit from damage.



SECTION 1
GENERAL

This section is extracted from instruction manual.(CCD-TR501E/TR502E/TR503E/TR506E/TR720E/TR740E)

Charging and installing the battery pack / Зарядка и установка батарейного блока

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.

Charging the battery pack

Charge the battery pack on a flat place without vibration.

(1) Connect the AC power adaptor to the mains.
(2) Align the right side of the battery pack with the line on the AC power adaptor, then slide the battery pack in the direction of the arrow.
(3) Set the selector to CHARGE. The CHARGE lamp (orange) lights up. Charging begins.

When charging is completed, the CHARGE lamp goes out. Unplug the unit from the mains, and then remove the battery pack and install it on the camcorder.

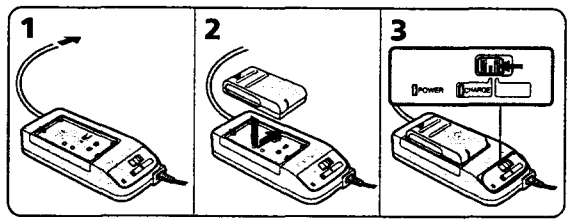
Перед пользованием Вашей видеокамерой Вам следует сначала зарядить и установить батарейный блок. Для зарядки батарейного блока воспользуйтесь прилагаемым сетевым адаптером перем. тока.

Зарядка батарейного блока

Зарядку батарейного блока производите на ровной поверхности, не подверженной вибрации.

(1) Подсоедините сетевой шнур адаптера перем. тока к электрической сети.
(2) Установите правую сторону батарейного блока на одной линии с сетевым адаптером перем. тока, затем передвиньте батарейный блок в направлении стрелки.
(3) Установите селектор в положение CHARGE. Загорится лампочка CHARGE (оранжевая). Начнется зарядка.

Когда зарядка завершится, лампочка CHARGE погаснет. Отключите аппарат от электрической сети, а затем снимите батарейный блок и установите его на видеокамеру.



Charging Time

Battery pack	Charging time*
NP-33 (supplied)	60
NP-55H	85
NP-C65/67	105
NP-66	95
NP-77H/78	170
NP-98	215

* Approximate minutes to charge an empty battery pack using the supplied AC power adaptor (Lower temperatures require a longer charging time.)

Время зарядки

Батарейный блок	Время зарядки*
NP-33 (прилагается)	60
NP-55H	85
NP-C65/67	105
NP-66	95
NP-77H/78	170
NP-98	215

* Приблизительно в минутах для зарядки разряженного батарейного блока с использованием прилагаемого сетевого адаптера перем. тока. (При низких температурах время зарядки удлиняется.)

Installing the battery pack

(1) Insert the top of the battery pack into the top of the battery mounting surface.
(2) Push the battery pack so that it attaches firmly. Make sure that you hear clicks twice.

Attach the battery pack to the camcorder securely.

Установка батарейного блока

(1) Вставьте верхний конец батарейного блока в верхнюю часть батарейной установочной поверхности.
(2) Нажмите батарейный блок, так, чтобы он был надежно присоединен. Убедитесь, чтобы Вы услышали двойной щелчок. Убедитесь, что Вы дважды услышали щелчок.

Прикрепите надежно батарейный блок к видеокамере.

Note on installing the NP-98 battery pack
Use the camcorder while lifting up the viewfinder slightly.

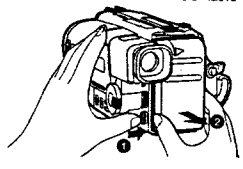
Note on the battery pack
Do not carry the camcorder by grasping the battery pack.

To remove the battery pack
Slide BATT, and then pull the lower part of the battery pack.

Примечание относительно батарейного блока NP-98
Используйте видеокамеру, слегка приподняв видоискатель.

Примечание к батарейному блоку
Не переносите видеокамеру, удерживая ее за батарейный блок.

Для снятия батарейного блока
Сдвиньте BATT, а затем потяните за нижнюю часть батарейного блока.

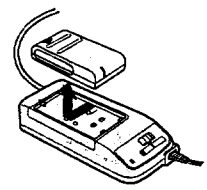


You can look at the demonstration of the functions available with this camcorder. (p. 29)

Вы можете взглянуть на демонстрацию функций, имеющихся в данной видеокамере. (стр. 29)

To remove the battery pack
Slide the battery pack in the direction of the arrow.

Для снятия батарейного блока
Передвиньте батарейный блок в направлении стрелки.



Notes on charging the battery pack

- The POWER lamp will remain lit for a while even if the battery pack is removed and the mains lead is unplugged after charging the battery pack. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, reconnect the mains lead and set the selector to CHARGE again.
- You cannot operate the camcorder using the AC power adaptor while charging the battery pack.

Примечания по зарядке батарейного блока

- Лампочка POWER будет некоторое время светиться, даже если батарейный блок снят и сетевой провод отключен после зарядки батарейного блока. Это является нормальным.
- Если лампочка POWER не загорается, установите селектор в положение VTR (DC OUT) и отсоедините сетевой провод. Примерно через минуту вновь подсоедините сетевой провод и опять установите селектор в положение CHARGE.
- Вы не можете управлять видеокамерой с использованием сетевого адаптера перем. тока во время зарядки батарейного блока.

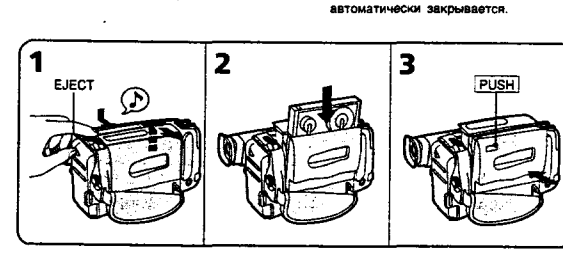
Inserting a cassette / Вставка кассеты

Make sure that a power source is installed.

(1) While pressing the small blue button, slide EJECT in the direction of the arrow. The cassette compartment automatically opens.
(2) Insert a cassette (not supplied) with the window facing out.
(3) Press the PUSH mark on the cassette compartment to close it. The cassette compartment automatically closes.

Убедитесь, что источник питания установлен.

(1) Нажимая маленькую синюю кнопку, сдвиньте EJECT в направлении стрелки. Отсек кассеты автоматически открывается.
(2) Вставьте кассету (не прилагается) окошком, обращенным наружу.
(3) Нажмите метку PUSH на отсеке кассеты для его закрытия. Отсек кассеты автоматически закрывается.



To eject the cassette
While pressing the small blue button, slide EJECT in the direction of the arrow.

To prevent accidental erasure
Slide the tab on the cassette to expose the red mark.
If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the ⏺ and ⏏ indicators flash, and you cannot record.
To re-record on this tape, slide the tab back out covering the red mark.

Для выталкивания кассеты
Нажимая маленькую синюю кнопку, сдвиньте EJECT в направлении стрелки.

Для предотвращения случайного стирания
Передвиньте лепесток на кассете, чтобы появилась красная метка.
Если Вы вставите кассету при выставленной красной метке и закроете отсек кассеты, то зазвучит зуммерный сигнал. Если Вы попытаетесь записывать при выставленной красной метке, в видоискателе будут мигать индикаторы ⏺ и ⏏, и Вы не сможете призвести запись.
Для перезаписи на данную ленту передвиньте лепесток назад, чтобы закрыть красную метку.

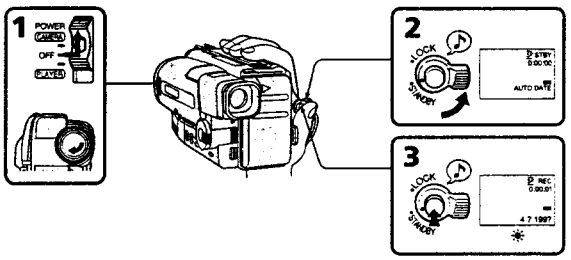
Camera recording
Запись с помощью видеокамеры

Make sure that a power source and a cassette is inserted and that the START/STOP MODE switch is set to .
When you use the camcorder for the first time, power on it and reset the date and time to your time (p. 51) before you start recording. The date is automatically recorded for 10 seconds after you start recording **(AUTO DATE feature)**. This feature works only once a day.
Before you record one-time events, you may want to make a trial recording to make sure that you are using the camcorder correctly.
(1) While pressing the small green button on the POWER switch, set it to CAMERA.
(2) Turn STANDBY up. The "STBY" indicator appears in the viewfinder.
(3) Press START/STOP. The camcorder starts recording and the "STBY" indicator changes to the "REC" indicator.

You can also select Recording mode, SP (standard play) mode or LP (long play) mode. Set REC MODE in the menu system according to the length of your planned recording before you start.

Убедиться, источник питания и кассета вставлены и, что переключатель START/STOP MODE установлен на .
Если Вы используете видеокамеру в первый раз, то включите ее питание и установите дату и время на Ваше время (стр. 51) перед тем, как Вы начнете запись. Дата автоматически будет записываться в течение 10 секунд после начала записи **(функция AUTO DATE)**. Эта функция работает только один раз в день.
Перед тем, как Вы начнете запись одноразовых событий, Вы можете захотеть сделать пробу для подтверждения, что Вы используете видеокамеру правильно.
(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение CAMERA.
(2) Поверните STANDBY вверх: Индикатор "STBY" появится в видоискателе.
(3) Нажмите START/STOP. Видеокамера начинает запись, и индикатор "STBY" изменится на индикатор "REC".

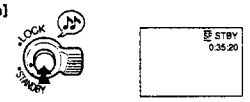
Вы также можете выбрать режим записи, режим SP (стандартное воспроизведение) или режим LP (удлиненное воспроизведение). Установите REC MODE в системе меню в соответствии с длительностью планируемой Вами записи перед началом.



To stop recording momentarily [a]
Press START/STOP again. The "REC" indicator in the viewfinder changes to the "STBY" indicator **(Standby mode)**.

To finish recording [b]
Press START/STOP. Turn STANDBY down, and set the POWER switch to OFF.
Then, eject the cassette and remove the battery pack.

[a]



Note on standby mode
If you leave the camcorder for 5 minutes or more with a cassette inserted in Standby mode, the camcorder goes off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down once and turn it up again. To start recording, press START/STOP.

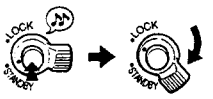
Notes on the recording mode
- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode.
  The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Note on recording
When you record from the beginning of the tape, run the tape for about 15 seconds before starting the actual recording. This prevents the camcorder from missing any start-up scenes when you play back the tape.

Для временной остановки записи [a]
Нажмите опять START/STOP. В видоискателе индикатор "REC" изменится на индикатор "STBY" **(режим готовности)**.

Для окончания записи [b]
Нажмите START/STOP. Поверните STANDBY вниз и установите выключатель POWER в положение OFF. Затем вытолкните кассету и удалите батарейный блок.

[b]



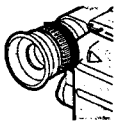
Примечание к режиму готовности
Если Вы оставляете видеокамеру на 5 минут или более со вставленной кассетой в режиме готовности, то видеокамера выключится автоматически. Это предотвращает разрядку батареи и износ ленты. Для возобновления режима готовности один раз поверните STANDBY вниз и снова поверните его вверх. Для начала записи нажмите START/STOP.

Примечания к режимам записи
- Данная видеокамера записывает и воспроизводит в режиме SP (стандартного воспроизведения) или в режиме LP (удлиненного воспроизведения).
  Однако, качество воспроизведения в режиме LP будет не таким хорошим, как в режиме SP.
- Если лента была записана в режиме LP на данной видеокамере и воспроизводится на других типах 8-мм видеокамер или на KBM, качество воспроизведения может быть не таким хорошим, как при воспроизведении на данной видеокамере.

Примечание к процессу записи
Если Вы производите запись с самого начала ленты, дайте возможность ленте переместиться около 15 секунд до начала записи. Это предохраняет видеокамеру от пропуска начальных сюжетов съемки, когда Вы будете воспроизводить ленту.

To focus the viewfinder lens
If the viewfinder is not in focus at all or when you use the camcorder after someone else has used it, focus the viewfinder lens. Turn the viewfinder lens adjustment ring **[a]** (CCD-TR501E/TR502E) or move the viewfinder lens adjustment lever **[b]** (CCD-TR503E/TR506E/TR720E/TR740E) so that the indicators in the viewfinder come into sharp focus.

[a] CCD-TR501E/TR502E



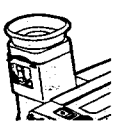
Note on the lighting aperture –CCD-TR503E/TR506E/TR720E/TR740E
If direct sunlight enters the lighting aperture, the picture in the viewfinder appears brighter. When this happens, colours in the viewfinder may change.

Notes on the tape counter
- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter as a guide, record in same (SP or LP) mode.

Note on beep sound
As indicated with ♪ in the illustrations, a beep sounds when you turn the power on or when you start recording and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder. Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, set BEEP to OFF in the menu system.

Для фокусировки объектива видоискателя
Если видоискатель вообще не сфокусирован, или, если Вы используете видеокамеру после того, как ее использовал кто-то другой, то сфокусируйте объектив видоискателя. Поверните регулировочное кольцо объектива видоискателя **[a]** (CCD-TR501E/TR502E) или переместите рычаг регулировки объектива видоискателя **[b]** (CCD-TR503E/TR506E/TR720E/TR740E) так, чтобы индикаторы в видоискателе были четко сфокусированы.

[b] CCD-TR503E/TR506E/TR720E/TR740E



Примечание к световой апертуре –CCD-TR503E/TR506E/TR720E/TR740E
Если прямые солнечные лучи воздействуют на световую апертуру, то изображение в видоискателе делается ярче. Когда это происходит, цвета в видоискателе могут измениться.

Примечания к счетчику ленты
- Счетчик ленты указывает время записи или время воспроизведения. Используйте его в качестве руководства. Существует отставание по времени на несколько секунд от фактического времени. Для установки счетчика на нуль нажмите кнопку COUNTER RESET.
- Если лента записана в сочетании режимов SP и LP, счетчик ленты будет показывать неправильное время записи. Если Вы намереваетесь произвести монтаж ленты с использованием счетчика времени согласно руководству, выполняйте запись в одном и том же режиме (SP или LP).

Примечание к зуммерному звуковому сигналу
Как указано с помощью ♪ на рисунках, зуммерный сигнал звучит, когда Вы начинаете запись, и два зуммерных сигнала звучат, когда Вы заканчиваете запись, подтверждая тем самым работу. Несколько зуммерных сигналов также звучит в качестве предупреждения какого-либо ненормального состояния видеокамеры. Заметьте, что зуммерный звуковой сигнал не записывается на ленту. Если Вы не хотите слышать зуммерный сигнал, то установите BEEP в положение OFF в системе меню.

Note on the AUTO DATE feature
The clock is set at the factory to Sydney time for Australia and New Zealand models, to Tokyo time for the models sold in Japan and to Hong Kong time for other models. You can reset the clock.
The AUTO DATE feature shows the date automatically once a day. However, the date may automatically appear more than once a day when:
– you reset the date and time.
– you eject and insert the tape again.
– you stop recording within 10 seconds.

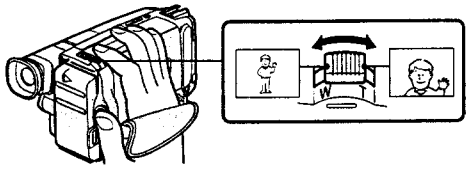
Примечание к функции AUTO DATE
Часы установлены на заводе на время Сиднея для австралийских и новозеландских моделей, на время Токио для японских моделей и на время Гонконга для других моделей. Вы можете переустановить часы. Функция AUTO DATE работает один раз в день. Однако, дата может появиться более одного раза в день, если:
– Вы переустановите дату и время.
– Вы вытолкнете ленту и вставите ее снова.
– Вы остановите запись в пределах 10 секунд.

Using the zoom feature

Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom sparingly.
"T" Side: for telephoto (subject appears closer)
"W" Side: for wide-angle (subject appears farther away)

Использование функции наезда видеокамеры

Наезд видеокамеры является техническим приемом записи, который позволяет Вам изменять размер объекта в кадре. Не злоупотребляйте этим приемом, если хотите, чтобы Ваши записи выглядели более профессионально.
Сторона "T": для телефото (объект приближается)
Сторона "W": для широкого угла съемки (объект удаляется)



Zooming speed (Variable speed zooming)
Turn the power zoom lever fully for a high-speed zoom. Turn it lightly for a relatively slow zoom.

When you shoot a subject using a telephoto zoom
If you cannot get a sharp focus while in extreme telephoto zoom, move the power zoom lever to the "W" side until the focus is sharp.
You can shoot a subject that is at least 80 cm (about 2 5/8 feet) away from the lens surface in the telephoto position, or 1 cm (about 1/2 inch) in the wide-angle position.

Скорость наезда видеокамеры (наезд с разной скоростью)
Полностью поверните рычаг пировдного трансформатора для быстрого наезда видеокамеры. Поверните его слегка для медленного наезда телекамеры.

Когда Вы снимаете объект, используя наезд в режиме телефото
Если Вы не можете получить четкой фокусировки во время крайнего наезда в режиме телефото, то перемещайте рычаг приводного трансформатора в сторону "W" до тех пор, пока не получите четкой фокусировки.
Вы можете произвести съемку предмета, который по меньшей мере находится на расстоянии 80см от поверхности объектива в положении телефото, или 1 см в положении широкого угла.

Notes on digital zoom
– CCD-TR502E/TR506E/TR720E/TR740E only
- More than 15x zoom is performed digitally, and the picture quality deteriorates as you go toward the " T " side. If you do not want to use the digital zoom, set D ZOOM to OFF in the menu system.
- The right side **[a]** of the power zoom indicator shows the digital zooming zone, and the left side **[b]** shows the optical zooming zone. If you set D ZOOM to OFF, the right **[a]** zone disappears.

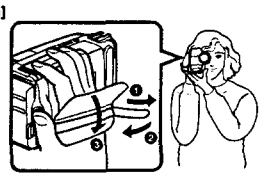
Примечания к цифровому трансфокатору – только CCD-TR502E/TR506E/TR720E/TR740E
- Трансфокатор более, чем 15х, создан в цифровом исполнении, и качество изображения ухудшается по мере Вашего движения в сторону T. Если Вы не хотите использовать цифровой трансфокатор, установите D ZOOM в положение OFF в системе меню.
- Правая сторона **[a]** индикатора приводного трансфокатора показывает зону цифровой трансфокации а левая сторона **[b]** показывает зону оптической трансфокации. Если Вы установите функцию D ZOOM на OFF, то зона **[a]** исчезнет.

Hints for better shooting / Советы для лучшей съемки

For hand-held shots, you'll get better results by holding the camcorder according to the following suggestions:

Для кадров при удерживании видеокамеры в руках, Вы получите лучшие результаты, если будете держать видеокамеру в соответствии со следующими указаниями:

[a]

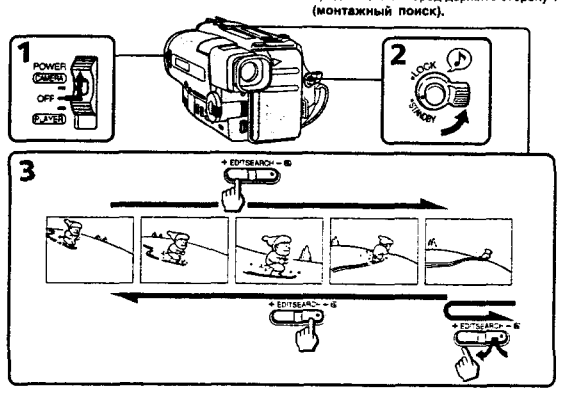


[b]

Checking the recorded picture / Проверка записанного изображения

Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.
(1) While pressing the small green button on the POWER switch, set it to CAMERA.
(2) Turn STANDBY up.
(3) Press the – (⊖) side of EDITSEARCH momentarily; the last few seconds of the recorded portion plays back **(Rec Review)**. Hold down the – side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side **(Edit Search)**.

Используя EDITSEARCH, Вы можете пересмотреть последнюю записанную сцену или проверить записанное изображение в видоискателе.
(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение CAMERA.
(2) Поверните STANDBY вверх.
(3) Ненадолго нажмите сторону – (⊖) кнопки EDITSEARCH; последние несколько секунд записанной части будут воспроизведены **(пересмотр записи)**. Держите сторону – кнопки EDITSEARCH до тех пор, пока видеокамера не вернется к желаемой сцене. Последняя записанная часть будет воспроизведена. Для продвижения вперед держите сторону + **(монтажный поиск)**.



To stop playback
Release EDITSEARCH.

To begin re-recording
Press START/STOP. Re-recording begins from the last recorded point or the point you released EDITSEARCH. Provided you do not eject the tape, the transition between the last scene you recorded and the next scene you record will be smooth.

Для останова воспроизведения
Нажмите EDITSEARCH.

Для начала перезаписи
Нажмите START/STOP. Перезапись начинается от последней записанной точки или от точки, где Вы отпустили EDITSEARCH. Предусмотрено, чтобы Вы не вытолкнули кассету, и переход между последней сценой, которую Вы записали, и следующей сценой, которую Вы записываете, будет плавным.

- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb **[a]**.
- Place your right elbow against your side.
- Place your left hand under the camcorder to support it.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can record in a low position to get an interesting recording angle. Lift the viewfinder up for recording from a low position **[b]**.

Place the camcorder on a flat surface or use a tripod
Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder. When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, the screw may damage the inner parts of the camcorder.

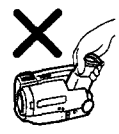
Cautions on the viewfinder
- Do not pick up the camcorder by the viewfinder **[c]**.
- Do not place the camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged. Be careful when placing the camcorder under sunlight or by a window **[d]**.

- Держите видеокамеру крепко и закрепите ее с помощью ременного захвата так, чтобы Вы могли легко манипулировать регуляторами с помощью большого пальца **[a]**.
- Расположите Ваш правый локоть сбоку от себя.
- Расположите Ваш левую руку под видеокамерой для ее поддержки.
- Надежно прислоните Ваш глаз к окуляру видоискателя.
- Используйте визирную рамку в качестве руководства для определения горизонтального плана.
- Вы можете записывать из низкого положения для получения интересного угла записи. Поднимите видоискатель вверх для записи из низкого положения **[b]**.

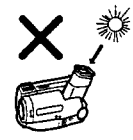
Располагайте видеокамеру на плоской поверхности или используйте треногу
Старайтесь располагать видеокамеру на столе или любой другой плоской поверхности на подходящей высоте. Если Вы имеете треногу для фотоаппарата, то Вы также можете использовать ее с видеокамерой. При прикреплении треноги не фирмы Sony убедитесь, что длина винта треноги менее 6,5 мм. В противном случае винт может повредить внутренние части видеокамеры.

Предостережения к видоискателю
- Не поднимайте видеокамеру за видоискатель **[c]**.
- Не располагайте видеокамеру так, чтобы видоискатель были направлены прямо на солнце. Внутренние части видоискателя могут быть повреждены. Будьте осторожны при расположение видеокамеры под солнцем или возле окна **[d]**.

[c]



[d]



Connections for playback / Подсоединения для воспроизведения

Connect the camcorder to your VCR or TV to watch the playback picture on the TV screen. When monitoring the playback picture by connecting the camcorder to your TV, we recommend you to use mains for the power source.

Connecting directly to a VCR/TV with Video/Audio input jack

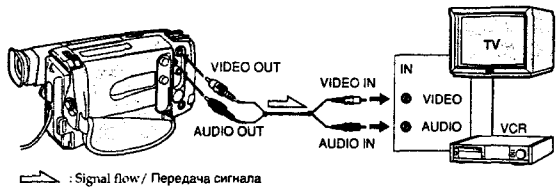
Open the jack cover. With using the supplied A/V connecting cable, connect the camcorder to the LINE IN inputs on the TV or VCR connected to the TV. Set the TV/VCR selector on the TV to VCR. When connecting to the VCR, set the input selector on the VCR to LINE.

Подсоедините видеокамеру к Вашему КВМ или телевизору для просмотра воспроизводимого изображения на телевизионном экране.
При подсоединении видеокамеры к Вашему телевизору мы рекомендуем Вам использовать электрическую сеть в качестве источника питания.

Подсоединение прямо к КВМ/ телевизору с входными гнездами видео/аудио

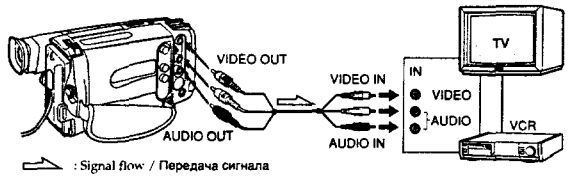
Откройте крышку гнезд, используя прилагаемый соединительный шнур аудио/видео, подсоедините видеокамеру к входным гнездам LINE IN на телевизоре или видеомагнитофоне, подсоединенном к телевизору. Установите селектор TV/VCR на телевизоре в положение VCR, установите селектор входного сигнала на КВМ в положение LINE.

CCD-TR501E/TR502E/TR503E



: Signal flow / Передача сигнала

CCD-TR506E/TR720E/TR740E



: Signal flow / Передача сигнала

If your TV or VCR is a monaural type – CCD-TR506E/TR720E/TR740E only
Connect only the white plug for audio on both the camcorder and the TV or the VCR. With this connection, the sound is monaural.

To connect to a VCR or TV without Video/Audio input jacks
Use an RFU adaptor (not supplied).

Using the AV cordless IR receiver – LASER LINK

– CCD-TR740E only
Once you connect the supplied AV cordless IR receiver to your TV or VCR, you can easily view the picture on your TV.
LASER LINK is a system which transmits and receivers a picture and sound between video equipment having the & mark by using infrared rays. LASER LINK is a trademark of Sony Corporation

To connect the AV cordless IR receiver to your TV
Connect the receiver to a TV with the supplied A/V connecting cable, and connect the supplied AC power adaptor to DC IN 6V.

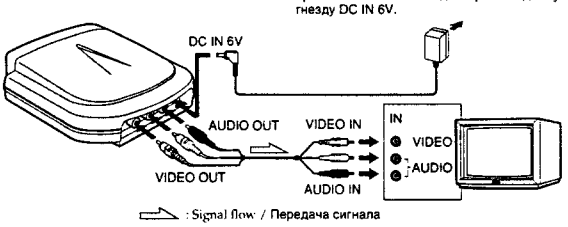
Если Ваш телевизор или КВМ монофонического типа – только CCD-TR506E/TR720E/TR740E
Подсоедините только белый штекер для звука к видеокамере и телевизору или КВМ. При этом соединении звук будет монофоническим.

Для подсоединения к КВМ или телевизору без входных гнезд видео/аудио
Используйте ВЧ-адаптер (не прилагается).

Использование беспроводного ИК-ресивера аудио-/видео – ЛАЗЕРНОЕ ЗВЕНО

– Только CCD-TR740E
Если Вы подсоедините прилагаемый беспроводный ИК-ресивер аудио-/видеосигнала к Вашему телевизору или КВМ, Вы можете легко смотреть изображение на Вашем телевизоре.
ЛАЗЕРНОЕ ЗВЕНО представляет собой систему, которая передает и принимает изображение и звук между видеоаппаратурой, имеющей знак &, с помощью инфракрасных лучей. LASER LINK является товарным знаком корпорации Sony.

Для подсоединения беспроводного ИК-ресивера аудио-/видеосигнала к Вашему телевизору
Подсоедините ресивер к телевизору с помощью прилагаемого соединительного шнура аудио-/видео и подсоедините прилагаемый сетевой адаптер к входному гнезду DC IN 6V.



If your TV or VCR is a monaural type
Connect the yellow plug for video and connect only the white plug for audio on both the AV cordless IR receiver and the TV or VCR. With this connection, the sound is monaural.

To play back on a TV
(1) Set the POWER switch on the camcorder to PLAYER.
(2) After connecting your TV and AV cordless IR receiver, set the POWER switch on the AV cordless IR receiver to ON.
(3) Turn the TV on and set the TV/VCR selector on the TV to VCR.
(4) Press LASER LINK. The lamp of LASER LINK lights.
(5) Adjust the angle and direction of both the camcorder and AV cordless IR receiver.
(6) Press ► on the camcorder to start playback.

To release LASER LINK
Press LASER LINK again.

Notes on connecting AV cordless IR receiver
- To connect AV cordless IR receiver to mains, use only supplied AC power adaptor, because the polarity of the supplied adaptor is opposite of conventional adaptors. Do not use the supplied AC power adaptor for other electric appliance with a DC IN 6V jack.
- You cannot use an RFU adaptor for this connection.

Если Ваш телевизор или КВМ монофонического типа
Подсоедините желтый штекер для видеосигнала и подсоедините только белый штекер для звука к беспроводному ИК-ресиверу аудио-/видеосигнала и телевизору или КВМ. При этом соединении звук будет монофоническим.

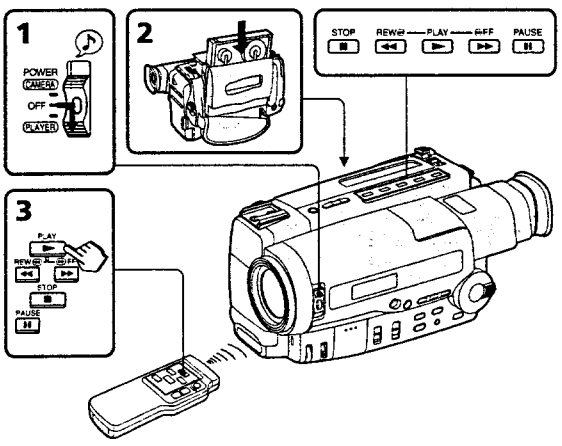
Для воспроизведения на телевизоре
(1) Установите переключатель POWER на видеокамере в положение PLAYER.
(2) После подсоединения к Вашему телевизору беспроводного ИК-ресивера аудио-/видеосигнала установите переключатель POWER на беспроводном ИК-ресивере аудио-/видеосигнала в положение ON.
(3) Включите телевизор и установите селектор TV/VCR на телевизоре в положение VCR.
(4) Нажмите кнопку LASER LINK. Высветится лампочка LASER LINK.
(5) Отрегулируйте угол и направление как видеокамеры, так и на беспроводном ИК-ресивере аудио-/видеосигнала.
(6) Нажмите кнопку ► на видеокамере, чтобы начать воспроизведение.

Для отпускания кнопки LASER LINK
Нажмите кнопку LASER LINK снова.

Примечания относительно подсоединения беспроводного ИК-датчика аудио-/видеосигнала
- Для подсоединения беспроводного ИК-ресивера аудио-/видеосигнала к электрической сети используйте только прилагаемый сетевой адаптер, так как полярность прилагаемого адаптера является противоположной полярности обычных адаптеров. Не используйте прилагаемый сетевой адаптер для других бытовых электроприборов с входным гнездом DC IN 6V.
- Вы не можете использовать для этого соединения ВЧ-адаптер.

You can monitor the playback picture in the viewfinder. You can also monitor a picture on a TV screen, after connecting the camcorder to a TV or VCR.
(1) While pressing the small green button on the POWER switch, set it to PLAYER.
(2) Insert the recorded tape with the window facing out.
(3) Press ► to start playback.

Вы можете выполнить контрольный просмотр воспроизводимого изображения в видоискателе. Вы также можете сделать просмотр на экране телевизора после подключения видеокамеры к телевизору или КВМ.
(1) Нажимая маленькую зеленую кнопку на выключателе POWER, передвиньте его в положение PLAYER.
(2) Вставьте записанную кассету окошком, обращенным наружу.
(3) Нажмите ► для начала воспроизведения.



To stop playback, press ■.
To rewind the tape, press ◄◄.
To fast-forward the tape, press ►►.

Для останова воспроизведения нажмите ■.
Для ускоренной перемотки ленты назад нажмите ◄◄.
Для ускоренной перемотки ленты вперед нажмите ►►.

Using the Remote Commander
You can control playback using the supplied Remote Commander.
Before using the Remote Commander, insert the R6 (size AA) batteries.

To erase the indicators
Press DISPLAY to erase the viewfinder screen indicators on the TV. To display the indicators, press again.

Various playback modes
To view a still picture (Playback pause)
Press II during playback. To resume playback, press II or ►.

To locate a scene (Picture Search)
Keep pressing ◄◄ or ►► during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewind (Skip Scan)
Keep pressing ◄◄ while rewinding or ►► while advancing the tape.
To resume normal playback, press ►.

Notes on playback
- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes or more, the camcorder automatically enters stop mode.

Note on the lens cover
The lens cover does not open when the POWER switch is set to PLAYER. Do not open the lens cover manually. It may cause malfunction.

Использование пульта дистанционного управления
Вы можете управлять воспроизведением с использованием прилагаемого пульта дистанционного управления.
Перед использованием пульта дистанционного управления вставьте батарейки R6(размером AA).

Для стирания экранных индикаторов
Нажмите кнопку DISPLAY для стирания индикаторов на экране видоискателя. Для отображения индикаторов нажмите ее снова.

Различные режимы воспроизведения
Для просмотра неподвижного избражения (пауза воспроизведения)
Нажмите кнопку II во время воспроизведения. Для возобновления воспроизведения нажмите кнопку II или ►.

Для отыскания желаемого фрагмента (поиск изображения)
Держать нажатой кнопку ◄◄ или ►► во время воспроизведения. Для возобновления нормальнго воспроизведения отпустить кнопку.

Для контроля изображения на высокой скорости во время ускоренной перемотки вперед или назад (поиск методом прогона)
Держать нажатой кнопку ◄◄ во время перемотки ленты назад или кнопку ►► во время перемотки ленты вперед. Для возобновления нормального воспроизведения нажать кнопку ►.

Примечания к воспроизведению
- В различных режимах воспроизведения на экране могут появиться полосы и звук будет приглушен.
- Если пауза воспроизведения продолжается около 5 минут или больше, видеокамера автоматически переходит в режим останова.

Примечание к крышке объектива
Крышка объектива не открывается, если выключатель POWER установлен в положение PLAYER. Не открывайте крышку объектива вручную. Это может привести к неисправности.

Using alternative power sources

Использование альтернативных источников питания

You can choose any of the following power sources for your camcorder: battery pack, the mains and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoor	Battery pack	Battery pack (Ni-Cd type)
In the car	12 V or 24 V car battery	Sony DC pack DCP-77

Note on power sources

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

This mark indicates that this product is a genuine accessory for Sony video product. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Вы можете выбирать любой из следующих источников питания для Вашей видеокамеры: батарейный блок, сетевое питание и автомобильный аккумулятор 12/24 В. Выбирайте надлежащий источник питания в зависимости от того, где Вы хотите использовать Вашу видеокамеру.

Место	Источник питания	Используемые принадлежности
В помещении	Электрическая сеть	Прилагаемый сетевой адаптер перем. тока
Вне помещения	Батарейный блок	Батарейный блок (типа Ni-Cd)
В автомобиле	Автомобильный аккумулятор 12 В или 24 В	Блок пост. тока Sony DCP-77

Примечание к источникам питания

Отсоединение источников питания или снятие батарейного блока во время записи или воспроизведения может повредить вставленную ленту. Если такое случится, восстановите источник питания немедленно.

Настоящий знак указывает, что данная продукция является подлинной принадлежностью видеопродукции Sony. Если Вы покупаете видеопродукцию Sony, то мы рекомендуем, чтобы Вы покупали принадлежности со знаком "GENUINE VIDEO ACCESSORIES."

Notes on the POWER lamp

- The POWER lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the POWER lamp does not light, set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, reconnect the mains lead.

To remove the adaptor

The adaptor is removed in the same way as the battery pack.

Using a car battery

Use Sony DCP-77 DC pack (not supplied). Connect the cord of the DC pack to the cigarette lighter socket of the car (12 V or 24 V). Connect the DC pack to the battery mounting surface of the camcorder.

To remove the DC pack

The DC pack is removed in the same way as the battery pack.

Примечания к лампочке POWER

- Лампочка POWER будет оставаться горящей какое-то время, даже если аппарат будет отсоединен после использования. Это является нормальным.
- Если лампочка POWER не загорается, установите селектор в положение VTR (DC OUT) и отсоедините сетевой провод. Приблизительно через одну минуту снова подсоедините сетевой провод.

Для снятия адаптера

Адаптер снимается таким же образом, как и батарейный блок.

Использование автомобильного аккумулятора

Используйте блок пост. тока DCP-77 Sony (не прилагается). Подсоедините шнур блока пост. тока к гнезду сигаретного прикуривателя автомобиля (12 В или 24 В). Подсоедините блок пост. тока к установочной поверхности батареи видеокамеры.

Для снятия блока пост. тока

Блок пост. тока снимается таким же способом, как и батарейный блок.

Using the mains

To use the supplied AC power adaptor:

(1) Connect the mains lead to the mains. Insert the top of the connecting plate of the AC power adaptor into the top of the battery mounting surface. Push the connecting plate so that it attaches firmly. Make sure that you hear clicks twice.

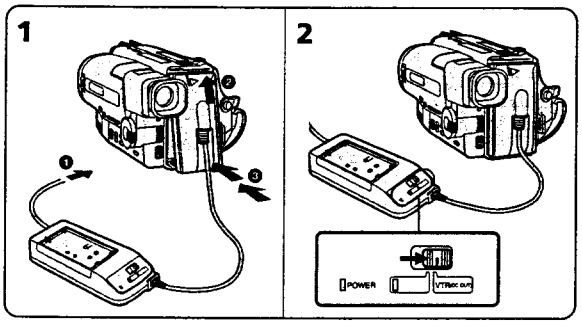
(2) Set the selector to VTR (DC OUT).

Использование электрической сети

Для использования прилагаемого сетевого адаптера перем. тока:

(1) Подсоедините провод электропитания к электрической сети. Вставьте верхний конец соединительной пластины сетевого адаптера перем. тока в верхнюю часть батарейной установочной поверхности. Нажмите на соединительную пластину, так, чтобы она присоединилась надежно. Убедитесь, что Вы дважды услышали щелчок.

(2) Установите селектор в положение VTR (DC OUT).



WARNING

The mains lead must only be changed at qualified service shop.

PRECAUTION

The set is not disconnected from the AC power source (mains) as long as it is connected to the mains, even if the set itself has been turned off.

ПРЕДУПРЕЖДЕНИЕ

Сетевой провод следует заменять только в мастерской квалифицированного обслуживания.

ПРЕДОСТЕРЕЖЕНИЕ

Данный аппарат не отключается от источника питания перем. тока, пока он подсоединен к электрической сети, даже если сам аппарат отключен.

Changing the mode settings

Изменение режимных установок

You can change the mode settings to further enjoy the features and functions of the camcorder.

(1) Press MENU to display the menu.

(2) Turn the control dial to select the desired item, and press the dial.

(3) Turn the control dial to select the desired mode, and press the dial.

(4) Press MENU to erase the menu display.

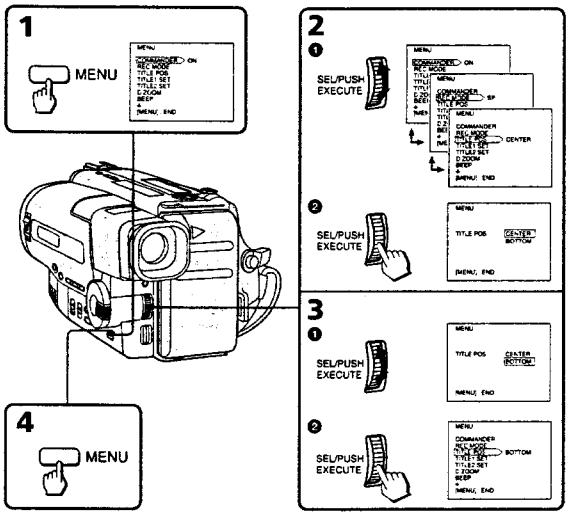
Вы можете изменять режимные установки в системе меню для большего наслаждения особенностями и функциями видеокамеры.

(1) Нажмите MENU для отображения меню.

(2) Поверните регулировочный диск для выбора желаемой установки и нажмите диск.

(3) Поверните регулировочный диск для выбора желаемого режима и нажмите диск.

(4) Нажмите MENU для стирания индикации меню.



Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes

COMMANDER <ON/OFF>
- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

Items for CAMERA mode only

REC MODE* <SP/LP>
- Select SP to record a tape in SP (standard play) mode.
- Select LP to record a tape in LP (long play) mode.

TITLE POS* <CENTER/BOTTOM>
- Select CENTER to centre the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE1 SET*/TITLE2 SET*
Store your own titles.

D ZOOM* <ON/OFF> (CCD-TR502E/TR506E/TR720E/TR740E only)
- Select ON to activate digital zooming.
- Select OFF to not use the digital zoom. The camcorder goes back to 15x zoom.

REC LAMP* <ON/OFF>
- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

AUTO DATE* <ON/OFF>
- Select ON to record the date for 10 seconds after recording has started.
- Select OFF to not record the date.

Выбор режима каждой установки

Установки для режимов CAMERA и PLAYER

COMMANDER <ON/OFF>
- Выберите ON при использовании прилагаемого к видеокамере пульта дистанционного управления.
- Выберите OFF, если пульт дистанционного управления не используется.

BEEP* <ON/OFF>
- Выберите ON, чтобы зуммерные сигналы звучали, когда Вы начинаете/останавливаете запись и т.д.
- Выберите OFF, если Вы не хотите слышать зуммерный звуковой сигнал.

Установки только для режима CAMERA

REC MODE* <SP/LP>
- Выберите SP для записи в режиме SP (стандартного воспроизведения).
- Выберите LP для записи в режиме LP (удлиненного воспроизведения).

TITLE POS* <CENTER/BOTTOM>
- Выберите CENTER для расположения надписи в центре изображения.
- Выберите BOTTOM для расположения надписи внизу изображения.

TITLE1 SET*/TITLE2 SET*
Запоминание Ваших собственных надписей.

D ZOOM* <ON/OFF> (только CCD-TR502E/TR506E/TR720E/TR740E)
- Выберите ON для активизации цифровой трансфокации.
- Выберите OFF для выключения цифровой трансфокации. Видеокамера возвратится к трансфокации 15x.

REC LAMP* <ON/OFF>
- Выберите OFF, если Вы не хотите, чтобы загоралась лампочка записи камерой/батарейно блока, расположенная на передней стороне аппарата.
- Обычно выбирайте ON.

AUTO DATE* <ON/OFF>
- Выберите ON для записи даты в течение 10 секунд после того, как была начата запись.
- Выберите OFF, чтобы не записывать дату.

CLOCK SET*
Reset the date or time.

DEMO MODE* <ON/OFF>
- Select ON to make the demonstration appear.
- Select OFF to make the demonstration not appear.

Items for PLAYER mode only

HiFi SOUND <STEREO/1/2> (CCD-TR506E/TR720E/TR740E only)
- Normally select STEREO.
- Select 1 or 2 to play back a dual sound track tape.

* These settings are retained even when the battery is removed, as long as the lithium battery is in place.

Notes on DEMO MODE
- DEMO MODE is set to STBY at the factory and the demonstration starts about 10 minutes after you set the POWER switch to CAMERA without inserting a cassette.
  Note that you cannot select STBY of DEMO MODE in the menu system.
- You cannot select DEMO MODE when a cassette is inserted in the camcorder.
- If you insert a cassette during the demonstration, the demonstration stops. You can start recording as usual. DEMO MODE automatically returns to STBY.

To look at the demonstration at once
Eject the cassette, if inserted. Select ON of DEMO MODE. Erase the menu display. The demonstration will begin.
If you turn off the camcorder once, DEMO MODE automatically returns to STBY.

CLOCK SET*
Дату или время.

DEMO MODE* <ON/OFF>
- Выберите ON, чтобы появилась демонстрация.
- Выберите OFF, чтобы демонстрация не появлялась.

Пункты только для режима PLAYER

HiFi SOUND <STEREO/1/2> (только CCD-TR506E/TR720E/TR740E)
- Обычно выбирайте STEREO.
- Выберите 1 или 2 для воспроизведения ленты с двойной звуковой дорожкой.

* Данные установки сохраняются, даже когда снимается батарейный блок до тех пор, пока установлена литиевая батарейка.

Примечания относительно режима DEMO MODE
- DEMO MODE установлен в положение STBY на заводе-изготовителе, и демонстрация начнется примерно через 10 минут после того, как Вы установите выключатель POWER в положение CAMERA без установки кассеты. Обратите внимание, что Вы не можете выбрать STBY режима DEMO MODE в системе меню.
- Вы не сможете выбрать DEMO MODE, если в видеокамеру вставлена кассета.
- Если Вы вставите кассету во время демонстрации, то демонстрация будет остановлена. Вы можете остановить запись как обычно. DEMO MODE автоматически вернется в положение STBY.

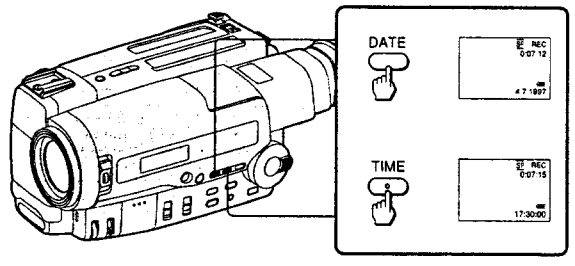
Для того, чтобы сразу взглянуть на демонстрацию
Извлеките кассету, если она вставлена. Выберите ON в DEMO MODE. Сотрите индикацию меню. Начнется демонстрация. Если Вы выключтие видеокамеру, режим DEMO MODE автоматически вернется в положение STBY.

Recording with the date or time

Запись с датой или временем

Before you start recording or during recording, press DATE or TIME. You can record the date or time displayed in the viewfinder with the picture. You cannot record the date and time at the same time. Except for the date or time indicator, no indicator is recorded.
The clock is set at the factory to Sydney time for Australia and New Zealand models, to Tokyo time for the models sold in Japan and to Hong Kong time for other models.

Перед тем, как Вы начнете запись или во время записи, нажмите DATE или TIME. Вы можете записать дату или время, отображенное на экране ЖКД или в видоискателе, вместе с изображением. Вы не можете записывать дату и время одновременно. Кроме индикаторов даты или времени, никакой индикатор записываться не будет. Часы установлены на заводе на время Лондона для Соединенного Королевства и на время Парижа для других европейских стран.



To stop recording with the date or time
Press DATE or TIME again. The date or time indicator disappears. The recording continues.

Note
You cannot superimpose a title during recording the date or time.

Для останова записи с датой или временем
Нажмите DATE или TIME снова. Индикатор даты или времени исчезнет. Запись продолжится.

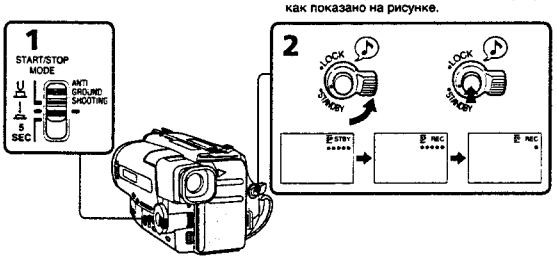
Примечание
Вы не можете наложить надпись во время записи даты или времени.

Selecting the START/STOP mode

Выбор режима START/STOP

Your camcorder has two modes besides normal start/stop mode. These modes enable you to take a series of quick shots resulting in a lively video.
(1) Set START/STOP MODE to the desired mode.
  : Recording starts when you press START/STOP, and stops when you press it again (normal mode).
  ANTI GROUND SHOOTING: The camcorder records only while you press down START/STOP so that you can avoid recording unnecessary scenes.
  5 SEC: When you press START/STOP, the camcorder records for 5 seconds and then stops automatically.
(2) Turn STANDBY up and press START/STOP.
  Recording starts.
If you selected **5 SEC**, five dots appear in the viewfinder. The dots disappear at a rate of one per second as illustrated below.

Ваша видеокамера имеет еще два режима, кроме обычного режима запуска/останова. Эти режимы позволяют Вам снять серию коротких кадров, создавая в результате живую видеопрограмму.
(1) Установите START/STOP MODE на желаемый режим.
  : Запись начинается, когда Вы нажимаете кнопку START/STOP и останавливается, когда Вы нажимаете ее снова (обычный режим).
  ANTI GROUND SHOOTING: Видеокамера производит запись только, когда Вы держите START/STOP в нажатом состоянии, так, чтобы Вы могли избежать записи нежелательных эпизодов.
  5 SEC: При нажатии START/STOP видеокамера производит запись в течение 5 секунд, а затем останавливается автоматически.
(2) Поверните STANDBY вверх и нажмите START/STOP.
  Запись начинается.
Если Вы выбираете режим **5 SEC**, пять точек появляются в видоискателе. Точки исчезают из расчета по одной за секунду, как показано на рисунке.



To extend the recording time in 5 SEC mode
Press START/STOP again before all the dots disappear. Recording continues for about 5 seconds from the moment you press START/STOP.

Для продления времени записи в режиме записи 5 SEC
Снова нажмите START/STOP перед тем, как все точки исчезнут. Запись продолжится еще около 5 секунд от момента нажания START/STOP.

Fade-in and fade-out

Введение и выведение изображения

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in from black while the sound increases.
When fading out, the picture gradually fades to black while the sound decreases.

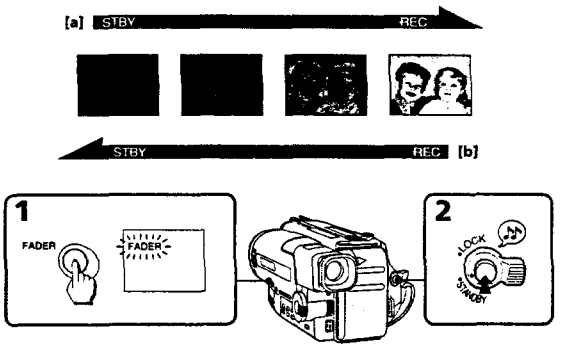
When fading in [a]
(1) While the camcorder is in Standby mode, press FADER. The FADER indicator starts flashing.
(2) Press START/STOP to start recording. The FADER indicator stops flashing.

When fading out [b]
(1) During recording, press FADER. The FADER indicator starts flashing.
(2) Press START/STOP to stop recording. The FADER indicator stops flashing, and then recording stops.

Вы можете вводить и выводить изображение, придавая Вашей записи профессиональный вид.
При введении изображение постепенно вводится от черного или мозаического с одновременным повышением звука.
При выведении изображение постепенно выводится до черного или мозаического с одновременным понижением звука.

Для введения изображения [a]
(1) Когда видеокамера находится в режиме готовности, нажмите FADER. Индикатор FADER начнет мигать.
(2) Нажмите START/STOP для начала записи. Индикатор FADER перестанет мигать.

Для выведения изображения [b]
(1) Во время записи нажмите FADER. Индикатор FADER начнет мигать.
(2) Нажмите START/STOP для останова записи. Индикатор FADER перестает мигать и запись останавливается.



To cancel the fade-in/fade-out function
Before pressing START/STOP, press FADER to turn off the FADER indicator.

When the date or time indicator is displayed
The date or time and a title indicator does not fade in or fade out.

When the START/STOP MODE switch is set to ⊥ or 5 SEC
You cannot use the fade-in/fade-out function.

Для отмены функции введения/выведения изображения
Перед нажатием START/STOP нажмите кнопку FADER, чтобы выключить индикатор FADER.

Если отображается индикатор даты или времени
Индикатор даты или времени и надписи плавно не вводится и не выводится.

Если переключатель START/STOP MODE установлен в положение ⊥ 5 SEC
Вы не можете использовать функцию введения/выведения изображения.

Enjoying picture effect

Наслаждение эффектами изображения

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.

Выбор эффекта изображения

Вы можете сделать изображение в стиле тех, что передают по телевидению с помощью функции эффектов изображения.

MOSAIC [a]
the picture is mosaic.

SOLARIZE [b]
The light intensity is more clear, and the picture looks like a painting.

B&W
The picture is monochrome (black and white).

SEPIA
The picture is sepia.

NEG. ART [c]
The colour of the picture is reversed.

MOSAIC [a]
Изображение будет мозаическим.

SOLARIZE [b]
Яркость света будет более ясной, и изображение будет выглядеть как картина.

B&W
Изображение будет монохроматическим (черно-белым).

SEPIA
Изображение будет в цвете сепия.

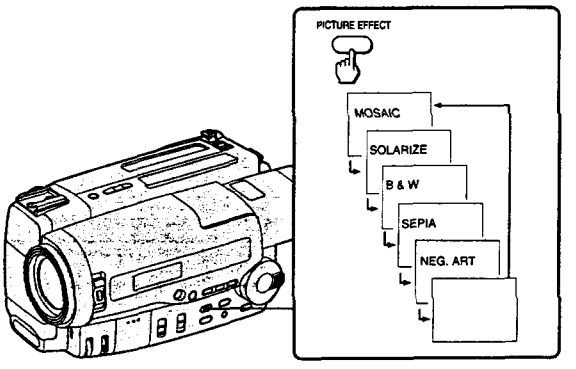
NEG. ART [c]
Цвет изображения будет негативным.

Using picture effect function

While the camcorder is in Standby mode, press PICTURE EFFECT to select the desired Picture Effect mode.

Использование функции эффектов изображения

В то время, когда видеокамера находится в режиме готовности, нажмите кнопку PICTURE EFFECT для того, чтобы выбрать желаемый режим эффектов изображения.



Returning to normal mode
Press PICTURE EFFECT until the Picture Effect indicator disappears.

Note on the picture effect
When you turn the power off, the camcorder returns automatically to normal mode.

Возврат к нормальному режиму
Нажимайте кнопку PICTURE EFFECT, пока индикатор эффектов изображения не исчезнет.

Примечание к эффектам изображения
Если Вы выключите питание, видеокамера возвращается в нормальный режим.

Using the wide mode function

Использование функции широкоформатного режима

– CCD-TR502E/TR506E/TR720E/TR740E only

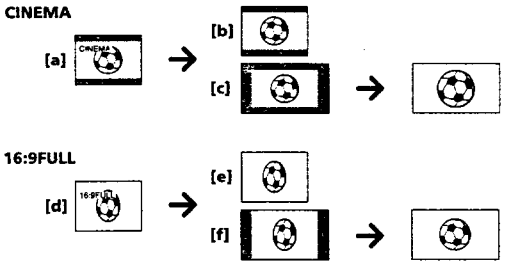
– Только CCD-TR502E/TR506E/ TR720E/TR740E

Selecting the desired mode

You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL).

Выбор желаемого режима

Вы можете записывать изображение как в кинотеатре (CINEMA) или широкоформатное изображение 16:9 для просмотра на широкоэкранном телевизоре 16:9 (16:9FULL).



CINEMA
Black bands appear at the top and the bottom of the screen. The viewfinder **[a]** and a normal TV screen **[b]** look wide. You can also watch the picture without black bands on a wide-screen TV **[c]**.

16:9FULL
The picture in the viewfinder **[d]** or on a normal TV **[e]** is horizontally compressed. You can watch the picture of normal images on a wide-screen TV **[f]**.

CINEMA
Черные полосы появляются сверху и снизу экрана и в видоискателе **[a]** и обычный телевизионный экран **[b]** выглядит, как широкий. Вы также можете смотреть изображение без черных полос на широкоэкранном телевизоре **[c]**.

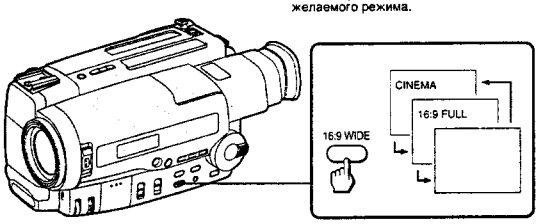
16:9FULL
Изображение в видоискателе **[d]** или на нормальном телевизоре **[e]** будет сжато по горизонтали. Вы можете смотреть нормальное изображение на широкоэкранном телевизоре **[f]**.

Using the wide mode function

While the camcorder is in Standby mode, press 16:9 WIDE repeatedly so that the desired mode indicator appears.

Использование функции широкоформатного режима

Когда видеокамера находится в режиме готовности, повторно нажимайте 16:9 WIDE до тех пор, пока не появится индикатор желаемого режима.



To cancel wide mode
Press 16:9 WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode
To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9FULL mode, set it to full mode. For details, refer to the instruction manual of your TV.
Note that the picture recorded in 16:9FULL mode looks compressed on a normal TV.

Notes on wide mode
- You cannot cancel the wide mode during recording.
- If wide mode is set to 16:9FULL, the SteadyShot function does not work and the ✋ indicator flashes.
- When you record in 16:9FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is cancelled automatically 5 minutes after you remove the power source.

Для отмены широкоформатного режима
Повторно нажимайте 16:9 WIDE до тех пор, пока индикатор широкоформатного режима не исчезнет.

Для просмотра ленты, записанной в широкоформатном режиме
Для просмотра ленты, записанной в режиме CINEMA, установите режим экрана широкоэкранного телевизора на режим масштабирования. Для просмотра ленты, записанной в режиме 16:9FULL, установите его на полноэкранный режима. Подробности сотрите в руководстве по эксплуатации Вашего телевизора.
Заметьте, что изображение, записанное в режиме 16:9FULL, выглядит сжатым на обычном телевизоре.

Примечания к широкоформатному режиму
- Во время записи Вы не сможете отменить широкоэкранный режим.
- Если широкоформатный режим установлен на 16:9FULL, функция устойчивой съемки не будет работать, и индикатор ✋ будет мигать.
- При записи в режиме 16:9FULL индикатор даты или времени будет расширенным на широкоэкранном телевизоре.
- Если Вы осуществляете перезапись ленты, то лента будет перезаписана в таком же режиме, как и исходная запись.
- Широкоформатный режим будет автоматически отменен через 5 минут после снятия источника питания.

Focusing manually

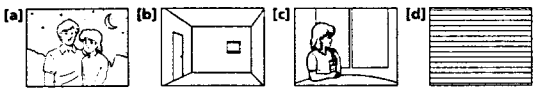
Фокусировка вручную

When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

При использовании ручной фокусировки

В следующих случаях Вы можете получить лучшие результаты, отрегулировав фокусировку вручную.



- Insufficient light **[a]**
- Subjects with little contrast — walls, sky, etc. **[b]**
- Too much brightness behind the subject **[c]**
- Horizontal stripes **[d]**
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting light
- Shooting a stationary subject when using a tripod

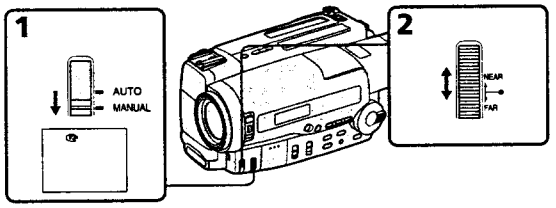
- Недостаточная освещенность **[a]**
- Объекты со слабым контрастом – стены, небо и т.д. **[b]**
- Слишком сильная яркость позади объекта **[c]**
- Горизонтальные полосы **[d]**
- Съемка объекта через матовое стекло
- Объект находится за сеткой и т.д.
- Яркий объект или объект, отражающий свет
- Съемка неподвижного объекта с использованием треноги

Focusing manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.
(1) Set FOCUS to MANUAL. The ✋ indicator appears.
(2) Turn the focus dial to focus on the subject.
Turn to the NEAR side to focus on a nearer object.
Turn to the FAR side to focus on a farther object.

Ручная фокусировка

При ручной фокусировке сперва перед записью выполнить фокусировку в режиме телефото, а затем установить расстояние для съемки.
(1) Установите FOCUS на MANUAL.
Появится индикатор ✋.
(2) Поверните диск фокусировки для того, чтобы сфокусировать объект.
Поверните диск в сторону NEAR, чтобы выполнить фокусировку на ближний объект.
Поверните диск в сторону FAR, чтобы выполнить фокусировку на дальний объект.



To return to the autofocus mode
Set FOCUS to AUTO. The ✋ indicator goes out.

Shooting in relatively dark places
Shoot at wide-angle after focusing in the telephoto position.

Для возврата к режиму автоматической фокусировки
Установить FOCUS на AUTO. Индикатор ✋ исчезнет.

Съемка в относительно темных местах
Выполняйте съемку в положении широкого угла после фокусировки в положении телефото.

Using the PROGRAM AE function

Использование функции PROGRAM AE

You can select from three PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can capture high-speed action or night views.

Вы можете выбрать один из трех режимов PROGRAM AE (автоматической съемки) в соответствии с Вашей ситуацией. Если Вы используете PROGRAM AE, Вы можете запечатлеть высокоскоростное действие или ночные виды.

Selecting the best mode

Select the best mode by using the following examples.

Выбор наилучшего режима

Выберите наилучший режим, используя следующие примеры.

Sports mode
- Outdoor sports scenes such as football, tennis, golf or skiing
- A landscape in a moving car

High-speed shutter mode
- A golf swing or a tennis match in fine weather with the ball captured clearly
- Playing back certain scenes with high-speed movements in clear, sharp picture

Twilight mode
- Recording night views, neon signs or fireworks

Режим спорта
- Спортивные сцены вне помещения, например, футбол, теннис, гольф или лыжи
- Ландшафт из движущегося автомобиля

Режим высокоскоростного затвора
- Взмахи во время игры в гольф или теннис в хорошую погоду с четким запечатлением мяча
- Воспроизведение определенных сцен с высокоскоростными движениями с четким, резким изображением

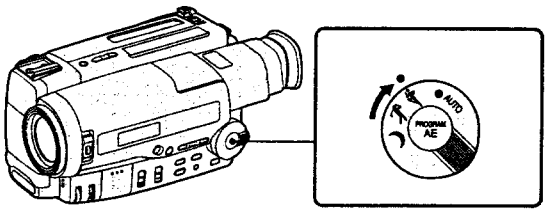
Режим сумерек
- Запись ночных видов, неоновых реклам или фейерверков

Using the PROGRAM AE function

While the camcorder is in Standby mode, set the mark of the desired mode to ● mark above the PROGRAM AE dial.

Использование функции PROGRAM AE

В то время, когда видеокамера находится в режиме готовности, установить знак желаемого режима на знак ●, расположенный над диском PROGRAM AE.



Returning to automatic mode
Turn PROGRAM AE until the PROGRAM AE indicator disappears.

Note on shutter speed
The shutter speed in each PROGRAM AE mode is as follows:
Sports mode – between 1/50 to 1/500
High-speed shutter mode – 1/4000
Twilight mode – 1/50
AUTO mode – 1/50 (or 1/100 when the Steady Shot is on – CCD-TR720E/TR740E only)

Возврат к автоматическому режиму
Поворачивайте диск PROGRAM AE, пока не исчезнет индикатор PROGRAM AE.

Примечание к скорости затвора
Скорость затвора в каждом режиме PROGRAM AE является следующей:
Спортивный режим — между 1/50 и 1/500
Режим высокоскоростного затвора — 1/4000
Режим сумерек — 1/50
Режим AUTO — 1/50 (или 1/100, если включена функция устойчивой съемки – только CCD-TR720E/TR740E)

Shooting with backlighting

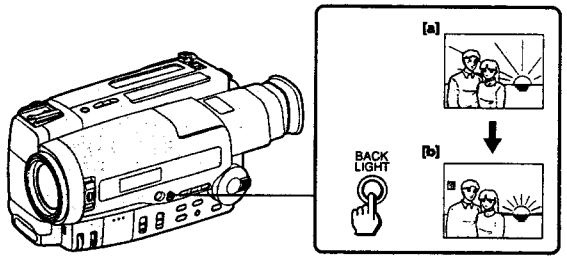
Съемка с задней подсветкой

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The ⧈ indicator appears in the viewfinder.

Если Вы снимаете объект с источником света позади объекта или объект на светлом фоне, используйте функцию BACK LIGHT.

Нажмите BACK LIGHT. В видоискателе появится индикатор ⧈.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting
Be sure to release this adjustment condition by pressing BACK LIGHT again. The ⧈ indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under following conditions:
- On snow e.g. at the ski resort
- At the beach under strong sunshine
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background.

Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

[a] Объект является слишком темным из-за задней подсветки.
[b] Объект становится ярким с компенсацией задней подсветки.

После съемки
Обязательно отменить состояние такой регулировки путем нажатия BACK LIGHT снова. Индикатор ⧈ исчезнет. В противном случае изображение будет слишком ярким при нормальных условиях освещения.

Эта функция также эффективна при следующих условиях:
- На фоне снега, например, на лыжном курорте
- На пляже при сильном солнечном свете
- Объект находится рядом с источником света или рядом с зеркалом, отражающим свет
- Белый объект на белом фоне.

Особенно, если Вы снимаете человека, который одет в яркую одежду, сделанную из шелка или синтетического волокна, его или её лицо будет становиться темным, если Вы не будете использовать эту функцию.

Releasing the STEADY SHOT function

Отключение функции STEADY SHOT

– CCD-TR720E/TR740E only
When you shoot, the 📷 indicator appears. This indicates that the SteadyShot function is working and the camcorder compensates for camera-shake.

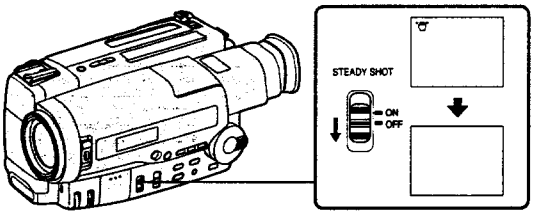
You can release the SteadyShot function when you do not need to use the SteadyShot function. Do not use the SteadyShot function when shooting a stationary object with a tripod.

Set STEADY SHOT to OFF. The 📷 indicator goes off.

– Только CCD-TR720E/TR740E
Когда Вы производите съемку, появляется индикатор 📷. Это указывает, что функция устойчивой съемки работает для компенсации дрожания видеокамеры.

Вы можете отключить функцию устойчивой съемки, если Вам не требуется использовать эту функцию. Не используйте функцию устойчивой съемки при съемке неподвижного объекта с помощью треноги.

Установите STEADY SHOT на OFF. Индикатор 📷 погаснет.



To activate the SteadyShot function again
Set STEADY SHOT to ON.

Notes on the steady shot
- The SteadyShot will not correct excessive camera-shake.
- When you switch the SteadyShot function on or off, the exposure may fluctuate.
- When you record in 16:9FULL mode, the SteadyShot function does not work and the 📷 indicator flashes.

Для активизации функции устойчивой съемки снова
Установите STEADY SHOT на ON.

Примечания к функции устойчивой съемки
- Функция устойчивой съемки не сможет откорректировать чрезмерное дрожание видеокамеры.
- При включении или выключении функции STEADY SHOT экспозиция может колебаться.
- Если Вы выполняете запись в режиме 16:9, функция устойчивой съемки не работает, а индикатор 📷 мигает.

Superimposing a title

Наложение надписи

You can select from eight preset titles and two titles you made to superimpose it on the picture during recording. Each time you press TITLE, the preset titles appear one by one.

To superimpose from the beginning

(1) Set the POWER switch to CAMERA.
(2) Turn STANDBY up.
(3) Press TITLE repeatedly until the desired title appears. The title flashes.
(4) Press START/STOP to start recording.
(5) Press TITLE when you want to turn off the title.

To superimpose on the way of recording

(1) Press TITLE repeatedly until the desired title appears. The title flashes.
(2) When the title stops flashing, press TITLE. The title disappears.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want superimpose the title.
(5) Press TITLE when you want to turn off the title.

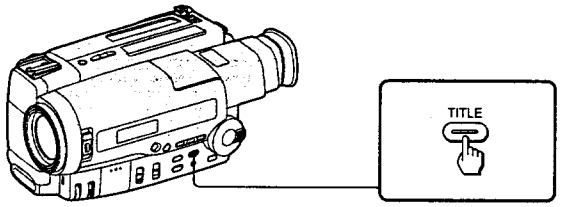
Вы можете выбирать из восьми предварительно установленных надписей и двух, созданных Вами, надписей, для наложения их на изображение во время записи. Каждый раз, когда Вы нажимаете TITLE, предварительно установленные надписи появляются одна за другой.

Для наложения от начала

(1) Установите выключатель POWER в положение CAMERA.
(2) Поверните STANDBY вверх.
(3) Неоднократно нажимайте TITLE, пока не появится желаемая надпись. Надпись будет мигать.
(4) Нажмите START/STOP для начала записи.
(5) Нажмите TITLE, когда Вы захотите выключить надпись.

Для наложения в процессе записи

(1) Неоднократно нажимайте TITLE, пока не появится желаемая надпись. Надпись будет мигать.
(2) Когда надпись перестанет мигать, нажмите TITLE. Надпись исчезнет.
(3) Нажмите START/STOP для начала записи.
(4) Нажмите TITLE, когда Вы пожелаете наложить надпись.
(5) Нажмите TITLE, когда Вы захотите выключить надпись.



Superimposing a title

Наложение надписи

Titles cycle as follows

Original title 1 → Original title 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
When you press TITLE with "THE END" displayed, the titles disappear. When you press TITLE once again, the titles begin from "HELLO!" or your original title.

If you have not stored any original titles

The titles begin from "HELLO!".

Notes on titles

- You cannot select a title during recording.
- While the picture is fading in or fading out, a title does not fade in or out.
- You cannot record a title and the date/time at the same time.
- While the menu is displayed, the titles are not recorded.

To select the title position

(1) Press MENU to display the menu.
(2) Turn the control dial to select TITLE POS, then press the dial.
(3) Turn the control dial to select CENTER [a] or BOTTOM [b], then press the dial.
(4) Press MENU to erase the menu display.

Надписи циклически изменяются следующим образом:

Исходная надпись 1 → Исходная надпись 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
Если Вы нажмете TITLE при отображаемой индикации "THE END", надписи исчезнут. Если Вы нажмете TITLE один раз, надписи начнут отображаться с "HELLO!" или с Вашей оригинальной надписи.

Если Вы не занесли в память каких-либо оригинальных записей

Индикация надписей начнется с "HELLO!".

Примечания относительно надписей

- Вы не можете выбрать надпись во время записи.
- В то время, когда изображение вводится или выводится, надпись не вводится и не выводится.
- Вы не можете записывать надпись и дату/время одновременно.
- В то время, когда отображается меню, надписи не записываются.

Для выбора положения надписи

(1) Нажмите кнопку MENU для отображения меню.
(2) Поверните диск управления для того, чтобы выбрать TITLE POS, а затем нажмите диск.
(3) Поверните диск управления для того, чтобы выбрать CENTER [a] или BOTTOM [b], а затем нажмите диск.
(4) Нажмите кнопку MENU для того, чтобы стереть индикацию меню.

[a] HELLO!

[b] HELLO!

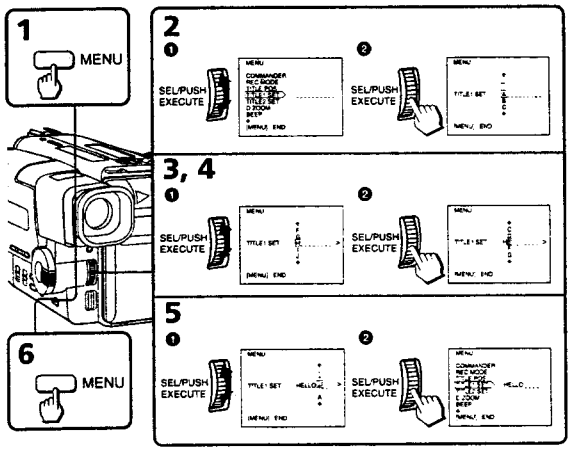
Advanced operations Усовершенствованные операции

Making your own titles

Создание Ваших собственных надписей

You can make two titles of up to 22 characters each, and store them in memory.
We recommend to eject the cassette before you begin so that the power is not turned off on the way.
(1) While the camcorder is in Standby mode, press MENU to display the menu.
(2) Turn the control dial to select TITLE1 SET or TITLE2 SET, then press the dial.
(3) Turn the control dial to select the desired character, then press the dial.
(4) Repeat step 3 until you finish the title.
(5) Turn the dial to select ⌟, then press the dial. The title is stored in memory.
(6) Press MENU to erase the menu display.

Вы можете создать две надписи из 22 знаков каждая и занести их в память.
Рекомендуется предварительно вынуть кассету, чтобы в процессе создания надписей питание не выключилось.
(1) Когда видеокамера находится в режиме готовности, нажмите MENU для отображения меню.
(2) Поверните регулировочный диск для выбора TITLE1 SET или TITLE2 SET, а затем нажмите диск.
(3) Поверните регулировочный диск для выбора желаемого знака, а затем нажмите диск.
(4) Повторяйте пункт 3 до тех пор, пока Вы не закончите надпись.
(5) Поверните диск, чтобы выбрать ⌟, а затем нажмите диск. Надпись будет занесена в память.
(6) Нажмите MENU для стирания индикации меню.



Making your own titles

Создание Ваших собственных надписей

To erase the title you have made

Press MENU, select the title you want to erase, and press the dial. Select ⌟ at the leftmost character, then press the dial.
Do not select the blank to erase a character. Otherwise, the blank is stored as a title in memory.

To change the title you have made

In step 2, select TITLE1 SET or TITLE2 SET, depending on which title you want to change, then press the dial. Select the desired characters again.

If you enter 22 characters in step 4

The title is stored immediately (and you can skip step 5).

If it takes more than 5 minutes to make a title with a cassette inserted

If the Standby mode lasts for more than 5 minutes with a cassette inserted, the power is turned off automatically.
If the power is turned off while you are making a title, set the POWER switch to OFF once, then to CAMERA. The title you have made remains stored in memory.

Advancing the characters rapidly

Keep pressing the dial.

Making a blank

Select a blank. It is counted as a character.

Для стирания созданной Вами надписи

Нажмите кнопку MENU, выберите надпись, которую Вы хотите стереть, а затем нажмите диск. Выберите ⌟ в самом левом положении, а затем нажмите диск.
Не выбирайте пустое место для стирания иероглифа. В противном случае пустое место будет занесено в память как надпись.

Для изменения созданной Вами надписи

В пункте 2 выберите TITLE1 SET или TITLE2 SET в зависимости от того, какую надпись Вы хотите изменить, а затем нажмите диск. Выберите желаемые знаки опять.

Если Вы ввели 22 знака в пункте 4

Надпись сразу же запоминается (и Вы можете пропустить пункт 5).

Если создание надписи занимает более 5 минут при вставленной кассете

Если режим готовности будет продолжаться более 5 минут при вставленной кассете, питание выключится автоматически.
Если при создании надписи выключится питание, установите выключатель POWER сначала в положение OFF, а затем в положение CAMERA. Созданная Вами надпись останется в памяти.

Быстрое продвижение знаков

Держите диск нажатым.

Выберите пустое место

Создание пустого места. Оно приравнивается к знаку.

Advanced operations Усовершенствованные операции

Editing onto another tape

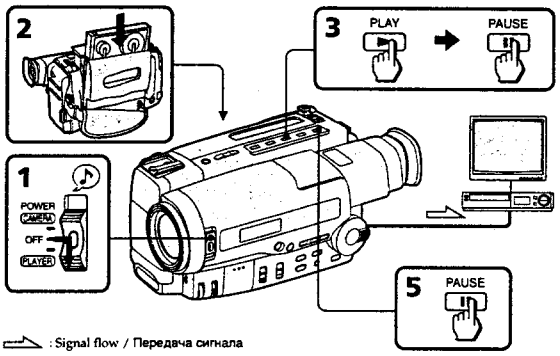
You can create your own video programme by editing with any other 8 mm, Hi8, VHS, S-VHS, VHSC, S-VHSC or Betamax VCR that has video/audio inputs.

After connecting the camcorder to the VCR,
(1) Set the POWER switch to PLAYER.
(2) Insert a blank tape (or a tape you want to record over) into the VCR and insert your recorded tape into the camcorder.
(3) Play back the recorded tape on the camcorder until you locate the point where you want to start editing, then press II to put the camcorder in playback pause mode.
(4) On the VCR, locate the recording start point and put the VCR in recording pause mode.
(5) Press II on the camcorder and VCR simultaneously to start editing.

Монтаж на другую ленту

Вы можете создать Вашу собственную видеопрограмму путем монтажа с помощью другого КВМ типа 8 мм, Hi8, VHS, S-VHS, VHSC, S-VHSC или Betamax, который имеет входы видео/аудио.

После подсоединения видеокамеры к КВМ,
(1) Установите выключатель POWER на PLAYER.
(2) Вставьте чистую ленту (или ленту, которую Вы хотите перезаписать) в КВМ и Вставьте записанную ленту в видеокамеру.
(3) Воспроизводите записанную ленту в видеокамере до тех пор, пока Вы не обнаружите точку, в которой Вы хотите начать монтаж, а затем нажмите II для введения видеокамеры в режим паузы воспроизведения.
(4) Найдите на КВМ точку начала записи и введите КВМ в режим паузы записи.
(5) Одновременно нажмите II на видеокамере и на КВМ для начала монтажа.



To edit more scenes
Repeat steps 3 to 5.

To stop editing
Press ■ STOP on both the camcorder and VCR.

Для монтажа других сцен
Повторяйте пункты с 3 по 5.

Для остановки монтажа
Нажмите ■ и на видеокамере, и на КВМ.

Additional Information

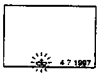
Changing the lithium battery in the camcorder

Дополнительная информация

Замена литиевой батарейки в видеокамере

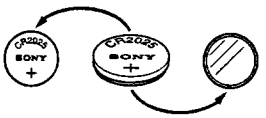
Your camcorder is supplied with a lithium battery installed. When the lithium battery becomes weak or dead, the indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, **replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturers instructions.
The lithium battery for the camcorder lasts for about one year under normal operation. (The lithium battery that comes installed at the factory may not last one year.)

Ваша видеокамера снабжена установленной литиевой батарейкой. Если литиевая батарейка станет слабой или полностью разряженной, индикатор будет мигать в видоискателе. Приблизительно в течение 5 секунд, когда Вы установите выключатель POWER в положение CAMERA. В таком случае **замените батарейку на литиевую батарейку Sony CR2025 или Duracell DL-2025. Использование другой батарейки может привести к риску воспламенения или взрыва.** Ликвидируйте использованные батарейки в соответствии с инструкциям завода-изготовителя.
Литиевая батарейка для видеокамеры работает приблизительно в течение 1 года при нормальных условиях эксплуатации. (Литиевой батарейки, которая была установлена на заводе, может не хватить на один год.)



Notes on lithium battery
- **Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.**
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- The lithium battery has positive (+) side and negative (–) side as illustrated. **Be sure to insert the lithium battery with the positive side facing out.**

Примечания по литиевой батарейке
- **Храните литиевую батарейку в месте, не доступном для детей. В случае проглатывания батарейки немедленно обратитесь к врачу.**
- Протрите батарейку сухой тканью для того, чтобы обеспечить хороший контакт.
- Не держите батарейку с помощью металлического пинцета, иначе может произойти короткое замыкание.
- Обратите внимание, что литиевая батарейка имеет положительный (+) и отрицательный (–) полюсы, как показано на рисунке. **Не забудьте установить литиевую батарейку так, чтобы полюсы на батарейке соответствовали полюсам на видеокамере.**



Changing the lithium battery in the camcorder

Замена литиевой батарейки в видеокамере

WARNING
The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

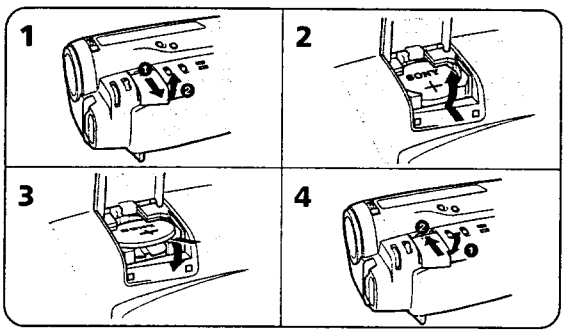
Changing the lithium battery

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date and time.
(1) Slide the cover, and then pull it up.
(2) Push the battery in once and pull it out from the holder.
(3) Install the new lithium battery with the positive (+) side facing out.
(4) Close the cover. Then slide the cover until it clicks.

ПРЕДУПРЕЖДЕНИЕ
Если с батарейкой неправильно обращаться, она може взорваться. Не перезаряжать, не разбирать и не бросать батарейку в огонь.

Замена литиевой батарейки

При замене литиевой батарейки держите батарейный блок или другой источник питания присоединенным. Иначе Вам придется переустанавливать дату и время.
(1) Передвиньте крышку и потяните ее вверх.
(2) Нажмите батарейку один раз и вытащите ее из держателя.
(3) Установите новую литиевую батарейку положительной (+) стороной, обращенной наружу.
(4) Закройте крышку. Затем передвиньте крышку, пока она не защелкнется.

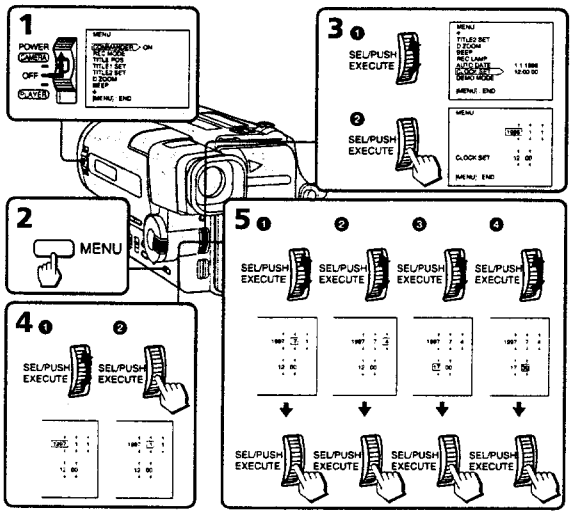


Resetting the date and time

You can reset the date and time in the menu system.
(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CLOCK SET, then press the dial.
(4) Turn the control dial to select the desired year, then press the dial.
(5) Set the month, day, hour, and minutes by turning the control dial and pressing the dial.
(6) Press MENU to erase the menu display.

Установка даты и времени

Вы можете переустановить дату и время в системе меню.
(1) Установите переключатель POWER в положение CAMERA.
(2) Нажмите MENU для отображения меню.
(3) Поверните регулировочный диск для выбора CLOCK SET, а затем нажмите диск.
(4) Поверните регулировочный диск для выбора желаемого года, а затем нажмите диск.
(5) Установите месяц, день, час и минуты, поворачивая регулировочный диск и нажимая диск.
(6) Нажмите MENU для стирания индикации меню.



Resetting the date and time / Установка даты и времени

To correct the date and time setting
Repeat steps 4 and 5.

To check the date and time
Press DATE to display the date indicator. Press TIME to display the time indicator. When you press the same button again, the indicator goes out.

The year indicator changes as follows:

1996 → 1997 ⋯→ 2025

Note on the time indicator
The internal clock of this camcorder operates on a 24-hour cycle.

Для исправления установки даты и времени
Повторите пункты 4 и 5.

Для проверки предварительно установленных даты и времени
Нажмите DATE для отображения индикатора даты. Нажмите TIME для отображения индикатора времени. Если Вы нажмете ту же самую кнопку снова, индикатор исчезнет.

Год изменяется следующим образом:

1996 → 1997 ⋯→ 2025

Примечание к индикатору времени
Встроенные часы этой видеокамеры работают в 24-часовом цикле.

Playback modes / Режимы воспроизведения

The playback mode (SP/LP) is selected automatically according to the format in which the tape has been recorded. The quality of the recorded picture in LP mode, however, will not be as good as that in SP mode.

Notes on AFM HiFi stereo – CCD-TR506E/TR720E/TR740E only
When you play back a tape, the sound will be in monaural if :
- You record the tape using this camcorder, then play it back on an AFM HiFi monaural video recorder/player.
- You record the tape on an AFM HiFi monaural video recorder, then play it back on this camcorder.

Foreign 8 mm video
You may not play back tapes recorded on a different TV colour system. Because the TV colour systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to the list of "Using your camcorder abroad" to check the TV colour system of foreign countries.

Режим воспроизведения (SP/LP) выбирается автоматически в соответствии с форматом записи, в котором была записана лента. Однако, качество записанного изображения в режиме LP будет не такое хорошее, как в режиме SP.

Примечания по стереозвучанию AFM HiFi – Только CCD-TR506E/TR720E/TR740E
При воспроизведении ленты звук будет монофоническим, если:
- Вы записали ленту с использованием данной видеокамеры, а затем воспроизводите ее на монофоническом видеомагнитофоне/видеоплейере AFM HiFi.
- Вы записали ленту на монофоническом видеомагнитофоне/видеоплейере AFM HiFi, а затем воспроизводите ее на данной видеокамере.

Иностранные 8-мм видеоленты
Вы не можете воспроизводить ленты, записанные в другой системе цветного телевидения. Так как системы цветного телевидения отличаются в зависимости от страны, то возможно Вы не сможете воспроизводить иностранные предварительно записанные ленты. Смотрите список в разделе "Использование Вашей видеокамеры за границей" для проверки системы цветного телевидения иностранных государств.

Tips for using the battery pack / Советы по использованию батарейного блока

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries
Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in cold environment
Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in cold environment.

To save battery power
Turn STANDBY down when not recording to save battery power.
A smooth transition between scenes can be made even if recording is stopped and started again. While positioning the subject, selecting an angle, or looking through the viewfinder lens, the lens moves automatically and the battery is used. The battery is also used when a cassette is inserted or removed.

В данном разделе показано, как Вы можете использовать наилучшим образом Ваш батарейный блок.

Подготовка батарейного блока

Всегда носите с собой дополнительные блоки
Имейте достаточное количество заряда в батарейных блоках, чтобы иметь возможность выполнить съемку от 2 до 3 раз.

Срок службы батарейного блока является более коротким в холодных условиях
Эффективность батарейного блока снижается и заряд будет израсходован быстрее, если Вы производите запись в холодных условиях.

Для сохранения заряда батарейного блока
Когда запись не производится, поверните STANDBY вниз для сохранения заряда батарейного блока.
Между сценами может быть сделан плавный переход, даже если запись остановлена и начата опять. Во время позиционирования объекта, выбора угла или просмотра через объектив видоискателя, объектив передвигается автоматически и батарейный блок используется. Батарейный блок также используется, когда вставляется и вынимается кассета.

Tips for using the battery pack / Советы по использованию батарейного блока

When to replace the battery

While you are using your camcorder, the remaining battery indicator decreases gradually as battery power is used up.

When the remaining battery indicator reaches the lowest point, the CC indicator appears and starts flashing.
When the CC indicator changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain smooth transition between scenes before and after the battery pack has been replaced.

Note on the remaining battery indicator
The remaining battery indicator of the camcorder may indicate a different remaining capacity from that of the battery pack with its own indicator (not supplied). The indicator on the battery pack is more accurate.

Notes on the rechargeable battery pack

CAUTION
Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

Когда следует заменять батарею

Когда Вы используете видеокамеру, индикатор оставшегося заряда батареи постепенно уменьшается по мере израсходования заряда батареи.

Когда индикатор оставшегося заряда батареи достигает низшей точки, появляется и начинает мигать индикатор CC.
Если во время записи индикатор CC изменяет скорость мигания с медленной на быструю, установите выключатель POWER в положение OFF на видеокамере и замените батарейный блок. Оставьте ленту в видеокамере для получения плавного перехода между сценами после замены батарейного блока.

Примечание относительно индикатора оставшегося заряда батареи
Индикатор оставшегося заряда батареи видеокамеры может показывать оставшуюся емкость заряда, несколько отличающуюся от той, что показывает батарейный блок со своим собственным индикатором (не прилагается). Индикатор на батарейном блоке является более точным.

Примечания относительно перезаряжаемого батарейного блока

ПРЕДОСТЕРЕЖЕНИЕ
Никогда не оставляйте батарейный блок при температуре выше 60°C (140°F), как например, в автомобиле, припаркованном на солнце или под прямыми солнечными лучами.

Tips for using the battery pack / Советы по использованию батарейного блока

The battery heats up
During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern and is normal.

Battery pack care
- **Remove the battery pack from the camcorder after using it,** and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery right before using the camcorder.

How to use the switch on the battery pack
When the switch is supplied with the battery pack ([a] on page 56), you can use it to find whether the battery pack is charged or not. Set the switch to the "no mark" position when charging is completed. Set the switch to the "red mark" position when the battery is used up (or in whichever direction you want to remind yourself).

The life of the battery pack
If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature
You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

Батарейный блок нагревается
Во время зарядки или записи батарейный блок нагревается. Это происходит вследствие генерируемой энергии и химических изменений, которые происходят внутри батарейного блока. Это не должно быть причиной для беспокойства и является нормальным.

Уход за батарейным блоком
- **Снимите батарейный блок с видеокамеры после пользования** и храните его в прохладном месте. Если батарейный блок установлен на видеокамере, небольшое количество электрического тока будет поступать на видеокамеру, даже, если выключатель POWER установлен в положение OFF. Это сокращает срок службы батареи.
- Батарейный блок всегда разряжается, даже если он не используется после зарядки. Поэтому Вам следует зарядить батарейный блок непосредственно перед использованием видеокамеры.

Как использовать переключатель на батарейном блоке
Если батарейный блок оснащен переключателем ([a] на стр. 56), то Вы можете использовать его для определения, заряжен ли батарейный блок или нет. Установите переключатель в позицию "без метки", если батарейный блок полностью заряжен. Установите переключатель в позицию "красной метки", если заряд батарейного блока израсходован (или же в какое-либо другое положение для напоминания).

Срок службы батарейного блока
Если индикатор заряда батареи быстро мигает сразу после включения видеокамеры с полностью заряженным батарейным блоком, то батарейный блок следует заменить на новый, полностью заряженный.

Температура зарядки
Вам следует заряжать батарейный блок при температуре от 10°C до 30°C (от 50°F до 86°F). При более низкой температуре требуется более длительное время зарядки.

Notes on charging

A brand-new battery

A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

After long storage

Recharge the battery pack after a long period of storage. If the battery pack is charged fully but not used for a long time (about one year), it becomes discharged. Charge it again, but in this case the battery life will be shorter than normal. After several charging and discharging cycles, the battery life will recover its original capacity.

Notes on the terminals

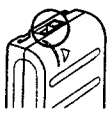
If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.

When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the + and – terminals with a soft cloth or paper.

Be sure to observe the following

- **To prevent an accident caused by a short circuit, do not allow metal objects such as a necklace to touch the battery terminals. When carrying the battery pack, attach to the terminal cover. [b]**
- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open or try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

[a]



Примечание по зарядке

Новый батарейный блок

Новый батарейный блок не заряжен. Перед использованием батарейного блока полностью зарядите его.

После длительного хранения

Перезарядите батарейный блок после длительного периода хранения. Если батарейный блок был полностью заряжен, но не использовался длительное время (около одного года), он разрядится. Зарядите его снова, однако в этом случае срок службы батарейного блока будет короче, чем обычно. После нескольких циклов зарядки и разрядки срок службы батарейного блока восстановится в соответствии со своей первоначальной емкостью.

Примечания относительно контактов

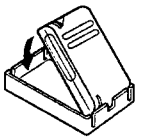
Если контакты (металлические части на задней части) загрязнены, продолжительность заряда батареи сократится.

Если контакты загрязнены или если батарейный блок не использовался длительное время, повторите установку и снятие батарейного блока несколько раз. Это улучшает состояние контактов. Протрите также контакты + и – мягкой тканью или салфеткой.

Не забудьте соблюдать следующее

- **Для предотвращения несчастного случая, вызванного коротким замыканием, не допускайте, чтобы металлические объекты, такие, как ожерелье, прикасались к контактам батареи. Носите батарейный блок с крышкой для контактов. [b]**
- Храните батарейный блок вдали от огня.
- Храните батарейный блок в сухом виде.
- Не открывайте и не пытайтесь разобрать батарейный блок.
- Не подвергайте батарейный блок каким-либо механическим ударным воздействиям.

[b]



Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Please take the following precautions.

Inside the camcorder

When the ⚿ and ⏏ indicators flash, moisture has condensed inside the camcorder. If this happens, no other functions except for tape ejection will work.

Eject the tape, turn off the camcorder and leave it with the cassette compartment open for at least one hour. The camcorder can be used again if the ⚿ indicator does not appear when the power is turned on again.

On the lens

If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about one hour.

How to prevent moisture condensation

When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.

(1) Be sure to tightly seal the plastic bag containing the camcorder.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about one hour).

Конденсация влаги

Если видеокамера внесена непосредственно из холодного места в теплое, внутри видеокамеры может конденсироваться влага, а также на поверхности ленты или на объективе. При таком условии, лента может прилипнуть к барабану головки и будет повреждена или же видеокамера может работать неправильно. Для предотвращения возможного повреждения ввиду таких обстоятельств в видеокамеру встроены датчики влаги. Соблюдайте следующие предосторожности.

Внутри видеокамеры

Если индикаторы ⚿ и ⏏ мигают, то значит влага сконденсировалась внутри видеокамеры. Если это случилось, то никакие другие функции, кроме выталкивания ленты, не будут работать. **Вытолкните ленту, выключите видеокамеру и оставьте ее с открытым отсеком кассеты по меньшей мере на один час.** Видеокамера снова может быть использована, если индикатор ⚿ не появится, когда питание будет включено опять.

На объективе

Если влага сконденсировалась на оббективе, то никакая индикация появляться не будет, но изображение становится тусклым. Отключите питание и не используйте видеокамеру в течение одного часа.

Как предотвратить конденсацию влаги

При внесении видеокамеры с холодного места в теплое положите видеокамеру в полиэтиленовый пакет и дайте ей возможность адаптироваться к комнатным условиям в течение определенного периода времени.

(1) Не забудьте герметично завязать полиэтиленовый пакет, содержащий видеокамеру.
(2) Снимите пакет, когда температура внутри него достигнет температуры окружающей среды (примерно спустя один час).

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When the ⚿ indicator and "🧹 CLEANING CASSETTE" message appear one after another in CAMERA mode or playback pictures are "noisy" or hardly visible, the video heads may be dirty.

[a] → [b]

[a] Slightly dirty
[b] Dirty

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy", repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

Очистка головок

Для обеспечения нормальной записи и четкого изображения видеоголовки следует очищать. Если индикатор ⚿ и сообщение "🧹 CLEANING CASSETTE" появляются один за другим в режиме CAMERA или воспроизводимое изображение является "зашумленным" или трудно различимым, видеоголовки могут быть загрязнены.

[a] Слегка загрязнены
[b] Загрязнены

Если это произошло, очистите видеоголовки с помощью очистительной кассеты V8-25CLH (не прилагается). После проверки изображения, если оно всё ещё "зашумлено", повторите очистку. (Не повторяйте очистку более 5 раз за один прием).

Предостережение

Не используйте имеющиеся в продаже очистительные кассеты влажного типа. Это может повредить видеоголовки.

Примечание

Если очистительной кассеты V8-25CLH нет в продаже в Вашей области, обратитесь в Ваше ближайшее агентство Sony.

Removing dust from inside the viewfinder

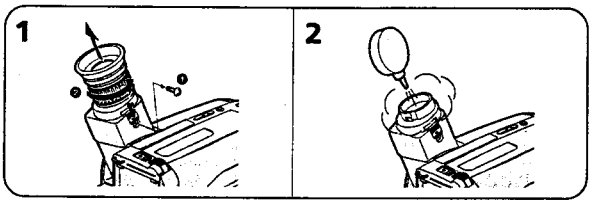
– CCD-TR501E/TR502E only

(1) Remove the screw with a screwdriver (not supplied). Then, while sliding the RELEASE knob, turn the eyecup in the direction of the arrow and pull it out.
(2) Clean the surface with a commercially available blower.

Удаление пыли изнутри видоискателя

– Только CCD-TR501E/TR502E

(1) Снимите винт с помощью отвертки (не прилагается). Затем передвигая ручку RELEASE, поверните окуляр в направлении стрелки и снимите его.
(2) Очистите поверхность продувочным устройством, приобретенным коммерческим способом.

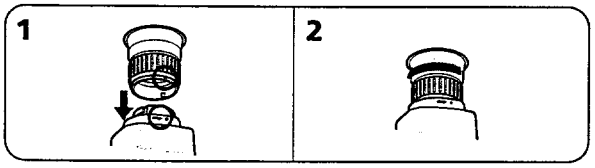


To reattach the eyecup

(1) Align the groove on the eyecup with the • mark on the barrel.
(2) Turn the eyecup in the direction of the arrow.
(3) Replace the screw.

Для прикрепления окуляра

(1) Совместите канавку на окуляре с меткой • на корпусе.
(2) Поверните окуляр в направлении стрелки.
(3) Установите винт.



Caution

Do not remove any other screws. You may remove only the screw to remove the eyecup.

Предостережение

Не снимите какие-либо другие винты. Вы можете снять только винт для снятия окуляра.

Precautions

Camcorder operation

- Operate the camcorder using 6.0 V (battery pack), or 7.5 V (AC power adaptor).
- For DC or AC operation, use only the recommended accessories.
- Should any solid object or liquid fall into the casing, unplug the camcorder and have it checked by your nearest Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.

On handling tapes

Do not insert anything in the small holes on the rear of the cassette. These holes are used to sense the type of tape, thickness of tape, and if the recording tab is out or in.

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the cassette. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.

Предосторожности

Работа с видеокамерой

- Эксплуатируйте видеокамеру используя 6,0 В (батарейный блок) или 7,5 В (сетевой адаптер перем. тока).
- Для работы от пост. тока или перем. тока используйте только рекомендуемые принадлежности.
- В случае попадания каких-либо твердых предметов или жидкости внутрь корпуса камеры, отключить видеокамеру и проверить ее в ближайшем агентстве Sony перед дальнейшей эксплуатацией.
- Избегайте грубого обращения с видеокамерой или механического ударного воздействия. Будьте особенно осторожны с объективом.
- Держите выключатель POWER в положении OFF, если видеокамера ен используется.
- Не заворачивайте видеокамеру и не работайте таким образом с ней, поскольку внутри камеры может подняться температура.
- Держите видеокамеру вдали от сильных магнитных полей или механических вибраций.

Относительно обращения с лентами

Не вставляйте никаких предметов в маленькие отверстия на задней стороне кассеты. Эти отверстия используются для определения типа ленты, толщины ленты и наличия лепестка записи.

Уход за видеокамерой

- Если видеокамера не будет использоваться длительное время, отключите источник питания и извлеките кассету. Периодически включайте питание, производите операции с видеокамерой и секцией плейера и воспроизводите ленту порядка 3 минут.
- Очищайте объектив мягкой кисточкой для удаления пыли. Если на поверхности объектива имеются отпечатки пальцев, удалите их с помощью мягкой ткани.

- Clean the camcorder body with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into the camcorder. When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

AC power adaptor

Charging

- Attach the battery pack firmly.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the mains when not in use for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord (mains lead) forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.

- Очищайте корпус видеокамеры мягкой сухой тканью или же мягкой тканью, слегка смоченной в мягком растворе моющего средства. Не используйте никаких растворителей, поскольку это может повредить отделку.
- Не позволяйте песку попасть в видеокамеру. Если Вы используете видеокамеру на песчаном пляже или в пыльном месте, то предохраняйте ее от песка или пыли. Песок или пыль могут вызвать неисправность, и в некоторых случаях неисправность не подлежит ремонту.

Сетевой адаптер перем. тока

Зарядка

- Присоедините надежно батарейный блок.
- Разместите батарейный блок на плоской поверхности без вибрации во время зарядки.
- Батарейный блок будет нагреваться во время зарядки. Это является нормальным.

Прочее

- Отсоедините аппарат от электрической сети, если он не используется в течение длительного времени. Для остоединения сетевого провода вытащите его за разъем. Никогда не тяните за сам провод.
- Не эксплуатируйте аппарат с поврежденным шнуром или же, если аппарат был уронен или поврежден.
- Не сгибайте сетевой шнур перем. тока (сетевой провод) и не кладите тяжелые предметы на него. Это может повредить сетевой шнур и может привести к пожару или поражению электрическим током.
- Следите за тем, чтобы никакие металлические предметы не приходили в контакт с металлическими деталями соединительной пластины. Если это произойдет, то может возникнуть короткое замыкание и аппарат может быть поврежден.
- Всегда поддерживайте металлические контакты в чистоте.
- Не разбирайте аппарат.

- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

Notes on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

If battery leakage occurred

- Wipe off the liquid in the battery case carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

- Не подвергайте аппарат механическим ударам и не роняйте его.
- Если аппарат находится в эксплуатации, особенно в режиме зарядки, держите его вдали от приемников АМ и видеооборудования, потому что он может нарушить прием АМ и работу видеоаппаратуры.
- Аппарат становится теплым во время использования. Это является нормальным.
- Не размещайте аппарат в местах, которые:
  - — крайне горячие или холодные
  - — пыльные или грязные
  - — очень влажные
  - — подвержены вибрации

Примечания относительно сухих батареек

Во избежание возможного повреждения вследствие утечки из батареек или коррозии, соблюдайте следующее.

- Обязательно вставьте батарейки в правильном направлении.
- Сухие батарейки не являются перезаряжаемыми.
- Не используйте комбинацию из новых и старых батареек.
- Не испльзуйте различные типы батареек.
- Батарейки слегка разряжаются, когда они не используются.
- Не используйте батарейку, которая протекает.

Если случится утечка из батареек

- Тщательно вытрите жидкость в батарейной камере перед заменой батареек.
- Если Вы трогали жидкость, то смойте ее водой.
- Если жидкость попала в Ваши глаза, то промойте Ваши глаза большим количеством воды, а затем обратитесь к врачу.

В случае трудностей отсоедините аппарат и обратитесь в Ваше ближайшее агентство Sony.

Each country or area has its own electricity and TV colour systems. Before using your camcorder abroad, check the following points.

Power sources

You can use your camcorder in any country or area with the supplied AC power adaptor within 110 V to 240 V AC, 50/60 Hz.

Difference in colour systems

This camcorder is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL system- based TV or a SECAM system-based TV with a PAL-SECAM transcoder. Check the following list.

PAL system

Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

PAL M system

Brazil

PAL N system

Argentina, Paraguay, Uruguay

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system

Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

Каждая страна или область имеет свою собственную систему электрической сети и систему цветного телевидения. Перед использованием Вашей видеокамеры за рубежом проверьте следующие пункты:

Источники питания

Вы можете использовать Вашу видеокамеру в любой стране или области с прилагаемым сетевым адаптером перем. тока в пределах от 110 В до 240 В перем. тока, 50/60 Гц.

Различия в системах цветного телевидения

Данная видеокамера основана на системе PAL. Если Вы хотите просмотреть воспроизводимое изображение на телевизоре, он должен быть основан на системе PAL или же на системе SECAM с транскодером PAL-SECAM: Проверьте следующий список.

Система PAL

Австралия, Австрия, Бельгия, Великобритания, Германия, Голландия, Гонконг, Дания, Испания, Италия, Китай, Кувейт, Малайзия, Новая Зеландия, Норвегия, Португалия, Сингапур, Таиланд, Финляндия, Швеция, Швейцария, и др.

Система PAL-M

Бразилия

Система PAL-N

Аргентина, Парагвай, Уругвай

Система NTSC

Багамские острова, Боливия, Венесуэла, Канада, Колумбия, Корея, Мексика, Перу, Суринам, США, Тайвань, Филиппины, Центральная Америка, Чили, Эквадор, Ямайка, Япония и др.

Система SECAM

Болгария, Венгрия, Гайана, Ирак, Иран, Монако, Польша, Россия, Словацкая Республика, Украина, Франция, Чешская Республика и др.

English

Trouble check

If you run into any problem using the camcorder, use the following table to troubleshoot the problem. Should the difficulty persist, disconnect the power source and contact your Sony dealer or local authorized Sony service facility.

Camcorder

Power

Symptom	Cause and/or Corrective Actions
The power is not on.	• The battery pack is not installed. → Attach the battery pack firmly by pushing the lower part of the battery pack until it clicks twice. (p. 10) • The battery is dead. → Use a charged battery pack. (p. 7) • The AC power adaptor is not connected to mains. → Connect the AC power adaptor to mains. (p. 25)
The power goes off.	• While being operated in CAMERA mode, the camcorder has been in the Standby mode for more than 5 minutes. → Turn STANDBY down once and turn it up again. (p. 12) • The battery is dead. → Use a charged battery pack. (p. 7)
The battery pack is quickly discharged.	• The ambient temperature is too low. (p. 53) • The battery pack has not been charged fully. → Charge the battery pack again. (p. 7) • The battery pack is completely dead, and cannot be recharged. → Use another battery pack. (p. 24)

Operation

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	• The tape is stuck to the drum. → Eject the cassette. (p. 11) • The tape has run out. → Rewind the tape or use a new one. (p. 22) • The POWER switch is set to PLAYER. → Set it to CAMERA. (p. 12) • The tab on the cassette is out (red). → Use a new cassette or slide the tab. (p. 11)
The cassette cannot be removed.	• The battery is dead. → Use a charged battery pack or the AC power adaptor. (p. 7, 25)
No function except for cassette ejection works.	• Moisture condensation has occurred. → Remove the cassette and leave the camcorder for at least 1 hour. (p. 57)
The tape does not move when a tape transport button is pressed.	• The POWER switch is set to CAMERA or OFF. → Set it to PLAYER. (p. 22) • The tape has run out. → Rewind the tape or use a new one. (p. 22)
The date or time indicator is flashing.	• The lithium battery is weak or dead. → Replace the lithium battery with a new one. (p. 50) • You pressed DATE and TIME together for more than 2 seconds. The camcorder is not malfunctioning. → You may start recording. Flashing will stop soon.

Symptom	Cause and/or Corrective Actions
The date or time indicator disappears.	• Reset the date and time. (p. 51)
The SteadyShot function does not activate. (CCD-TR720E/TR740E only)	• STEADY SHOT is set to OFF. → Set STEADY SHOT to ON. (p. 43) • The SteadyShot function does not work when the wide mode is set to 16:9FULL.
The autofocusing function does not work.	• FOCUS is set to MANUAL. → Set it to AUTO (p. 39) • Shooting conditions are not suitable for autofocus. → Set FOCUS to MANUAL to focus manually. (p. 39)
Recording stops in a few seconds.	• START/STOP MODE switch is set to ⏚ or 5 SEC. → Set it to ⏚. (p. 31)
The title display position shifts.	• There are unwanted blanks before or after the title. → Delete them then select ↵.
The fader function does not work.	• The START/STOP MODE switch is set to 5 SEC or ⏚. → Set it to ⏚. (p. 31)
No sound or only a low sound is heard when playing back a tape (CCD-TR506E/TR720E/TR740E only).	• The stereo tapes is played back with HiFi SOUND set to 1 or 2 in the menu system. → Set to STEREO in the menu system. (p. 29)

Picture

Symptom	Cause and/or Corrective Actions
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted. → Adjust the viewfinder lens. (p. 14)
A vertical band appears when a subject such as lights or a candle flame is shot against a dark background.	• The contrast between the subject and background is too high. The camcorder is not malfunctioning. → Change locations.
The picture is "noisy".	• The video heads may be dirty. → Clean the heads using the Sony V8-25CLH cleaning cassette. (p. 58)
A vertical band appears when shooting a very bright subject.	• The camcorder is not malfunctioning.
An unknown picture is displayed in the viewfinder.	• If 10 minutes elapsed after you set the POWER switch to CAMERA without inserting a cassette, the camcorder automatically starts the demonstration. → Insert the cassette, and the demonstration stops. You can make the demonstration not appear. (p. 29)
The picture on a TV screen is unclear and background noise occurs. (CCD-TR740E only)	• The camcorder and the receiver are not facing each other. → Adjust the position and angle of both units. • Another infrared emitting appliance is operating. → Stop operating it.

Continued to the next page

Others

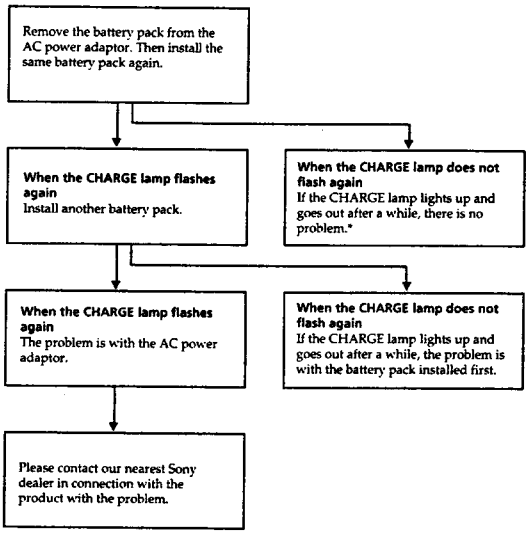
Symptom	Cause and/or Corrective Actions
The supplied Remote Commander does not work.	• COMMANDER is set to OFF. → Set it to ON. (p. 28) • Something is blocking the infrared rays. → Remove the obstacle. • The battery is not inserted with the correct polarity. → Insert the battery with the correct polarity. (p. 82) • The batteries are dead. → Insert new ones. (p. 82)
There is dust in the viewfinder. (CCD-TR501E/TR502E only)	• Detach the eyecup and clean the viewfinder lens. (p. 59)
The infrared transmission system does not operate. (CCD-TR740E only)	• The POWER of the receiver is turned off. → Set the POWER switch on the receiver to ON. (p. 21) • The camcorder and the receiver are not facing each other. → Adjust the position and angle of both units. (p. 80) • The receiver is positioned too far from the camcorder. → Use the camcorder near the infrared receiver. • Direct sunlight is shining on the infrared sensor of the receiver. → Avoid direct sunlight.

AC power adaptor

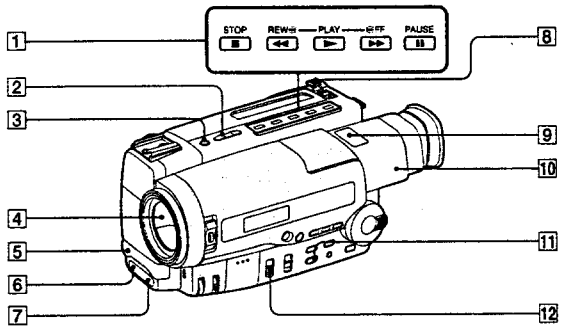
Symptom	Cause and/or Corrective Actions
The POWER lamp does not light.	• Set the selector to VTR (DC OUT) and disconnect the mains lead. After about one minute, try again. (p. 9)
The CHARGE lamp flashes.	• See the following chart.

When the CHARGE lamp flashes

Check through the following chart.


Remove the battery pack from the AC power adaptor. Then install the same battery pack again.
When the CHARGE lamp flashes again
Install another battery pack.
When the CHARGE lamp does not flash again
If the CHARGE lamp lights up and goes out after a while, there is no problem.*
When the CHARGE lamp flashes again
The problem is with the AC power adaptor.
When the CHARGE lamp does not flash again
If the CHARGE lamp lights up and goes out after a while, the problem is with the battery pack installed first.
Please contact our nearest Sony dealer in connection with the product with the problem.

* If you use a battery pack which you have just bought or which has been left unused for a long time, the CHARGE lamp may flash at the first charging. This does not indicate a problem. Repeat again to charge with the same battery pack.



1 **Tape transport buttons (p. 22, 23)**
■ STOP
◄◄ REW (rewind)
► PLAY (playback)
►► FF (fast forward)
II PAUSE
These buttons will function in PLAYER mode.

2 **EDITSEARCH button (p. 18)**

3 **LASER LINK button (CCD-TR740E only) (p. 21)**

4 **Lens cover**

5 **Built-in microphone**

6 **IR transmitter (CCD-TR740E only) (p. 80)**

7 **Remote sensor (p. 82)**
Aim the Remote Commander here for remote control.

8 **Power zoom lever (p. 15)**

9 **Lighting aperture (CCD-TR503E/TR506E/TR720E/TR740E only)**

10 **Viewfinder (p. 14)**

11 **16:9 WIDE button (CCD-TR502E/TR506E/TR720E/TR740E only) (p. 37)**

12 **STEADY SHOT button (CCD-TR720E/TR740E only) (p. 43)**

1 **Кнопки перемещения ленты (стр. 22, 23)**
■ STOP (останов)
◄◄ REW (ускоренная перемотка назад)
► PLAY (воспроизведение)
►► FF (ускоренна перемотка вперед)
II PAUSE (пауза)
Эти кнопки функционируют в режиме PLAYER.

2 **Кнопка EDITSEARCH (стр. 18)**

3 **Кнопка LASER LINK (только CCD-TR740E) (стр. 21)**

4 **Крышка объектива**

5 **Встроенный микрофон**

6 **Датчик инфракрасного излучения (только CCD-TR740E) (стр. 80)**

7 **Дистанционный датчик (стр. 82)**
Нацелить пульт дистанционного управления сюда для дистанционного контроля.

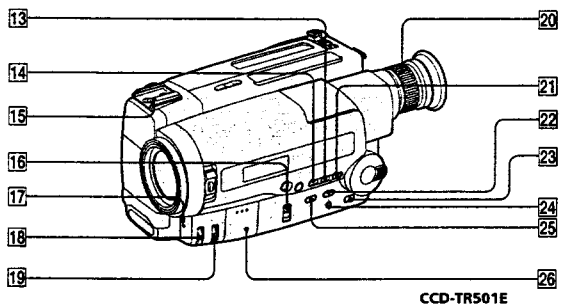
8 **Рычаг приводного трасфокатора (стр. 15)**

9 **Световая диафрагма (только CCD-TR503E/TR506E/TR720E/TR740E)**

10 **Видоискатель (стр. 14)**

11 **Кнопка 16:9 WIDE (только CCD-TR502E/TR506E/TR720E/TR740E) (стр. 37)**

12 **Кнопка STEADY SHOT (только CCD-TR720E/TR740E) (стр. 43)**



CCD-TR501E

13 **TIME button (p. 30)**

14 **DATE button (p. 30)**

15 **Accessory shoe**

16 **START/STOP MODE switch (p. 12, 31)**

17 **Recording lamp**

18 **Focus dial (p. 39)**

19 **FOCUS switch (p. 39)**

20 **Viewfinder adjustment ring (CCD-TR501E/TR502E only) (p. 14)**

21 **COUNTER RESET button (p. 14)**

22 **TITLE button (p. 44)**

23 **MENU button (p. 27)**

24 **DISPLAY button (p. 23)**

25 **PICTURE EFFECT button (p. 35)**

26 **Lithium battery compartment (p. 50)**

13 **Кнопка TIME (стр. 30)**

14 **Кнопка DATE (стр. 30)**

15 **Башмак для установки принадлежностей**

16 **Переключатель START/STOP MODE (стр. 12, 31)**

17 **Лампочка записи**

18 **Диск фокусировки (стр. 39)**

19 **Переключатель FOCUS (стр. 39)**

20 **Кольцо регулировки видоискателя (Только CCD-TR501E/TR502E) (стр. 14)**

21 **Кнопка COUNTER RESET (стр. 14)**

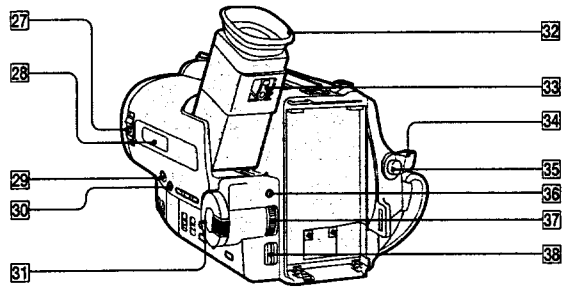
22 **Кнопка TITLE (стр. 44)**

23 **Кнопка MENU (стр. 27)**

24 **Кнопка DISPLAY (стр. 23)**

25 **Кнопка PICTURE EFFECT (стр. 35)**

26 **Отсек литиевой батарейки (стр. 50)**



27 **POWER switch (p. 12, 22)**

28 **Display window (p. 85)**

29 **FADER button (p. 32)**

30 **BACK LIGHT button (p. 42)**

31 **PROGRAM AE dial (p. 41)**

32 **Eyecup**

33 **Viewfinder adjustment lever (CCD-TR503E/TR506E/TR720E/TR740E only) (p. 14)**

34 **STANDBY switch (p. 12)**

35 **START/STOP button (p. 12)**

36 **LANC control jack**
LANC stands for Local Application Control Bus system. The LANC control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the connectors indicated as CONTROL L or REMOTE.

37 **Menu control dial (p. 27)**

38 **BATT (battery release) knob (p. 10)**

27 **Выключатель POWER (стр. 12, 22)**

28 **Окошко дисплея (стр. 85)**

29 **Кнопка FADER (стр. 32)**

30 **Кнопка BACK LIGHT (стр. 42)**

31 **Диск PROGRAM AE (стр. 41)**

32 **Окуляр**

33 **Рычаг регулировки видоискателя (только CCD-TR503E/TR506E/TR720E/TR740E) (стр. 14)**

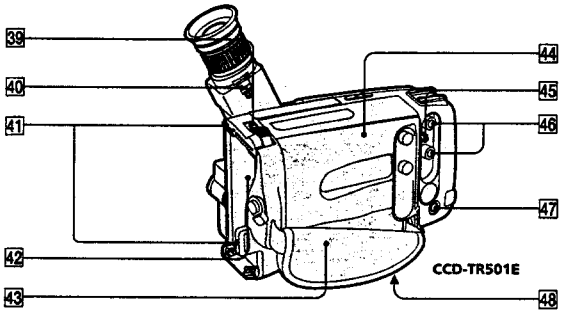
34 **Переключатель STANDBY (стр. 12)**

35 **Кнопка START/STOP (стр. 12)**

36 **Гнездо управления LANC**
LANC означает систему канала местного управления. Гнездо управления LANC используется для контроля за перемещением ленты видеооборудования и перефирийных устройств, подключенных нему. Данное гнездо имеет ткую же функцию, как и разъемы, обозначенные как CONTROL L или REMOTE.

37 **Диск управления меню (стр. 27)**

38 **Ручка BATT (освобождения батарейного блока) (стр. 10)**



CCD-TR501E

39 **EJECT knob (p. 11)**

40 **Eyecup release knob (CCD-TR501E/TR502E only) (p. 59)**

41 **Hooks for shoulder strap**

42 **Battery mounting surface (p. 10)**

43 **Grip strap (p. 17)**

44 **Cassette compartment (p. 11)**

45 **RFU DC OUT (RFU adaptor DC out) jack**

46 **VIDEO/AUDIO OUT jack (p. 19)**

47 **MIC (PLUG IN POWER) jack**
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.

48 **Tripod receptacle (p. 17)**

39 **Ручка EJECT (стр. 11)**

40 **Ручка освобождения окуляра (Только CCD-TR501E/TR502E) (стр. 59)**

41 **Крючки для плечевого ремня**

42 **Поверхность установки батарейного блока (стр. 10)**

43 **Ременной захват (стр. 17)**

44 **Отсек кассеты (стр. 11)**

45 **Гнездо RFU DC OUT (выход адаптера пост. тока RFU)**

46 **Гнездо VIDEO/AUDIO OUT (стр. 19)**

47 **Гнездо MIC (микрофона)**
Подсоедините внешний микрофон (не прилагается). К этому гнезду также можно подсоединять микрофон с "выключателем питания".

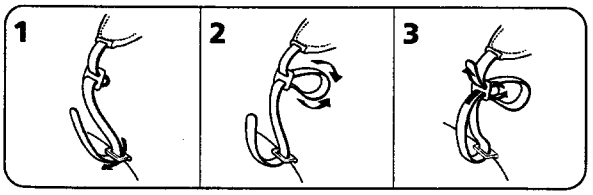
48 **Крышка гнезда (стр. 17)**

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap 41.

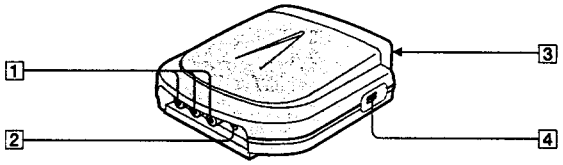
Прикрепление плечевого ремня

Прикрепите прилагаемый плечевой ремень к крючкам для плечевого ремня 41.



AV cordless IR receiver
– CCD-TR740E only

Беспроводный ИК-ресивер аудио-/видеосигнала
– Только CCD-TR740E



1 VIDEO/AUDIO OUT jack (p. 20)
2 DC IN 6V jack (p. 20)
3 Infrared sensor (p. 21)
4 POWER switch (p. 21)

1 Гнездо VIDEO/AUDIO OUT (стр. 20)
2 Гнездо DC IN 6V (стр. 20)
3 Датчик инфракрасного излучения (стр. 21)
4 Выключатель POWER (стр. 21)

Remote Commander

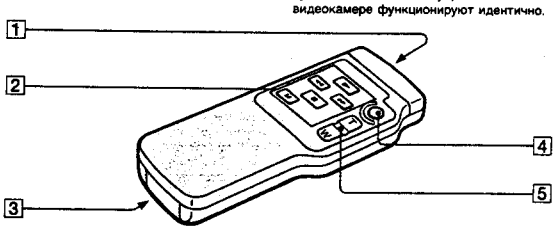
Using the Remote Commander
Make sure that COMMANDER is set to ON in the menu system.

The buttons that have the same name on the Remote Commander as on the camcorder function identically.

Пульт дистанционного управления

Использование пульта дистанционного управления
Убедитесь, что режим COMMANDER установлен в положение ON в системе меню.

Кнопки с одинаковыми названиями на пульте дистанционного управления и на видеокамере функционируют идентично.

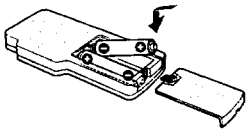


1 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.
2 **Tape transport buttons (p. 22)**
3 **R6 (size AA) battery holder (p. 82)**
4 **START/STOP button**
5 **Power zoom button**
The zooming speed is unchangeable on the Remote Commander.

1 **Передатчик**
Направьте его на дистанционный датчик для управления видеокамерой после включения питания видеокамеры.
2 **Кнопки перемещения ленты (стр. 22)**
3 **Держатель батареек R6 (размер AA) (стр. 82)**
4 **Кнопка START/STOP**
5 **Кнопка приводного трансфокатора**
Скорость трансфокации является неизменной при управлении с помощью пульта дистанционного управления.

To prepare the Remote Commander
Insert two R6 (size AA) batteries by matchingthe + and – on the batteries to the diagram inside the battery compartment.

Для подготовки пульта дистанционного управления
Вставьте две батарейки R6 (размером AA), согласовывая + и – на батарейках с диаграммой внутри отсека батареек.



Note on battery life
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

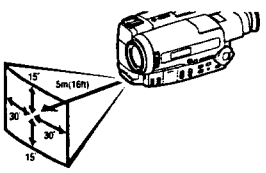
To avoid damage from possible battery leakage
Remove the batteries when you will not use the Remote Commander for a long time.

Remote control direction
Aim the Remote Commander to the remote sensor within the range as shown below.

Примечание к сроку службы батареек
Батареек для пульта дистанционного управления хватает приблизительно на 6 месяцев при нормальной эксплуатации. Если батарейки станут слабыми или полностью разрядятся, пульт дистанционного управления не будет работать.

Во избежание повреждения из-за возможной утечки из батареек
Удалите батарейки, если Вы не будете использовать пульт дистанционного управления в течение длительного времени.

Направление пульта дистанционного управления
Направьте пульт дистанционного управления на дистанционный датчик в пределах диапазона, показанного ниже.



Notes on the Remote Commander
- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works at commander mode VTR 2. The commander modes (1, 2, and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR at commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

To watch the demonstration
You can start the demonstration by setting in the menu system.
You can also start the demonstration by the following operation.

To enter Demo mode
(1) Eject the cassette and set the POWER switch to PLAYER.
(2) Turn STANDBY up.
(3) While holding down ► set the POWER switch to CAMERA.

To exit Demo mode
(1) Set the POWER switch to PLAYER.
(2) Turn STANDBY up.
(3) While holding down ■ set the POWER switch to CAMERA.

Примечания относительно пульта дистанционного управления
- Располагайте дистанционный датчик вдали от сильных источников света, таких, как прямой солнечный свет или иллюминация. В противном случае дистанционное управление может не срабатывать.
- Убедитесь, что между дистанционным датчиком на видеокамере и пультом дистанционного управления нет препятствия.
- Данная видеокамера работает в режиме пульта управления VTR 2 (KBM 2). Режимы пульта управления (1, 2 и 3) используются для отличия данной видеокамеры от других KBM фирмы Sony, чтобы избежать неправильного срабатывания при дистанционном управлении. Если Вы используете другие KBM фирмы Sony в режиме пульта управления VTR 2 (KBM 2), рекомендуется изменить режим на пульте управления или закрыть дистанционный датчик KBM черной бумагой.

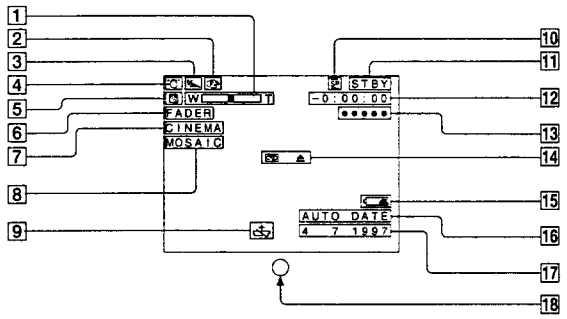
Для просмотра демонстрации
Вы можете начать демонстрацию путем установки системы меню.
Вы также можете начать демонстрацию путем следующей операции.

Для входа в демонстрационный режим Demo
(1) Вытолкните кассету и установите выключатель POWER в положение PLAYER.
(2) Поверните STANDBY вверх.
(3) Нажимая ►, установите выключатель POWER в положение CAMERA.

Для выхода из демонстрационного режима Demo
(1) Установите выключатель POWER в положение PLAYER.
(2) Поверните STANDBY вверх.
(3) Нажимая ■, установите выключатель POWER в положение CAMERA.

Operation indicators

In the viewfinder



1 Power zoom indicator (p. 15)
2 Manual focus indicaror (p. 39)
3 PROGRAM AE indicator (p. 41)
4 SteadyShot indicator (CCD-TR720E/TR740E only) (p. 43)
5 Back light indicator (p. 42)
6 FADER indicator (p. 32)
7 Wide mode indicator (CCD-TR502E/TR506E/TR720E/TR740E only) (p. 37)
8 Picture Effect indicator (p. 35)
9 Lithium battery indicator (p. 49)
10 SP/LP recording mode indicator (p. 12)
11 Tape transport mode (p. 12)

Индикаторы работы

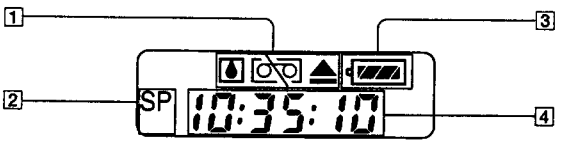
В видоискателе

1 Индикатор приводного трансфокатора (стр. 15)
2 Индикатор ручной фокусировки (стр. 39)
3 Индикатор PROGRAM AE (стр. 41)
4 Индикатор устойчивой съемки (только CCD-TR720E/TR740E) (стр. 43)
5 Индикатор задней подсветки (стр. 42)
6 Индикатор FADER (стр. 32)
7 Индикатор широкоэкранного режима (только CCD-TR502E/TR506E/TR720E/TR740E) (стр. 37)
8 Индикатор эффектов изображения (стр. 35)
9 Индикатор литиевой батарейки (стр. 49)
10 Индикатор режима записи SP/LP (стр. 12)
11 Режим перемещения ленты (стр. 12)

12 Tape counter (p. 14)
13 5 SEC recording indicator (p. 31)
14 Warning indicator (p. 86)
15 Remaining battery indicator (p. 54)
16 AUTO DATE indicator (p. 12)
17 Date or Time (p. 30)
18 Recording lamp/battery lamp (p. 12)

12 Счетчик ленты (стр. 14)
13 Индикатор записи 5 SEC (стр. 31)
14 Предупреждающий индикатор (стр.86)
15 Индикатор оставшегося заряда батарейного блока (стр. 54)
16 Индикатор AUTO DATE (стр. 12)
17 Дата или время (стр. 30)
18 Лампочка записи/лампочка батарейного блока (стр. 12)

In the display window



1 Warning indicators (p. 86)
2 Recording mode indicator (SP/LP) (p. 12)
3 Remaining battery indicator (p. 54)
4 Date or time (p. 30)
Tape counter (p. 14)

В окошке дисплея

1 Предупреждающий индикатор (стр. 86)
2 Индикатор режима записи (SP/LP) (стр. 12)
3 Индикатор оставшегося заряда батарейного блока (стр. 54)
4 Дата или время (стр. 30)
Счетчик ленты (стр. 14)

Additional information Дополнительная информация

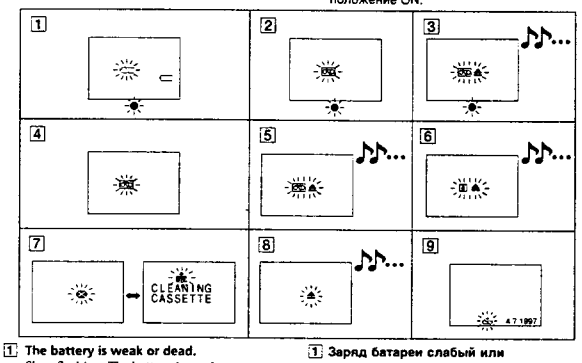
Warning indicators Предупреждающие индикаторы

The warning indicators and the recording lamp flash to inform you of the following situation. The illustrations below are the warning indicators of the viewfinder. The same indicators flash also in the display window.

♪: You can hear the beep sound when BEEP is set to ON.

Предупреждающие индикаторы и лампочка записи будут мигать, информируя Вас о следующем.
На приведенных ниже рисунках показаны предупреждающие индикаторы видоискателя. Такие же индикаторы мигают в окошке дисплея.

♪: Вы можете слышать зуммерный звуковой сигнал при установке BEEP в положение ON.



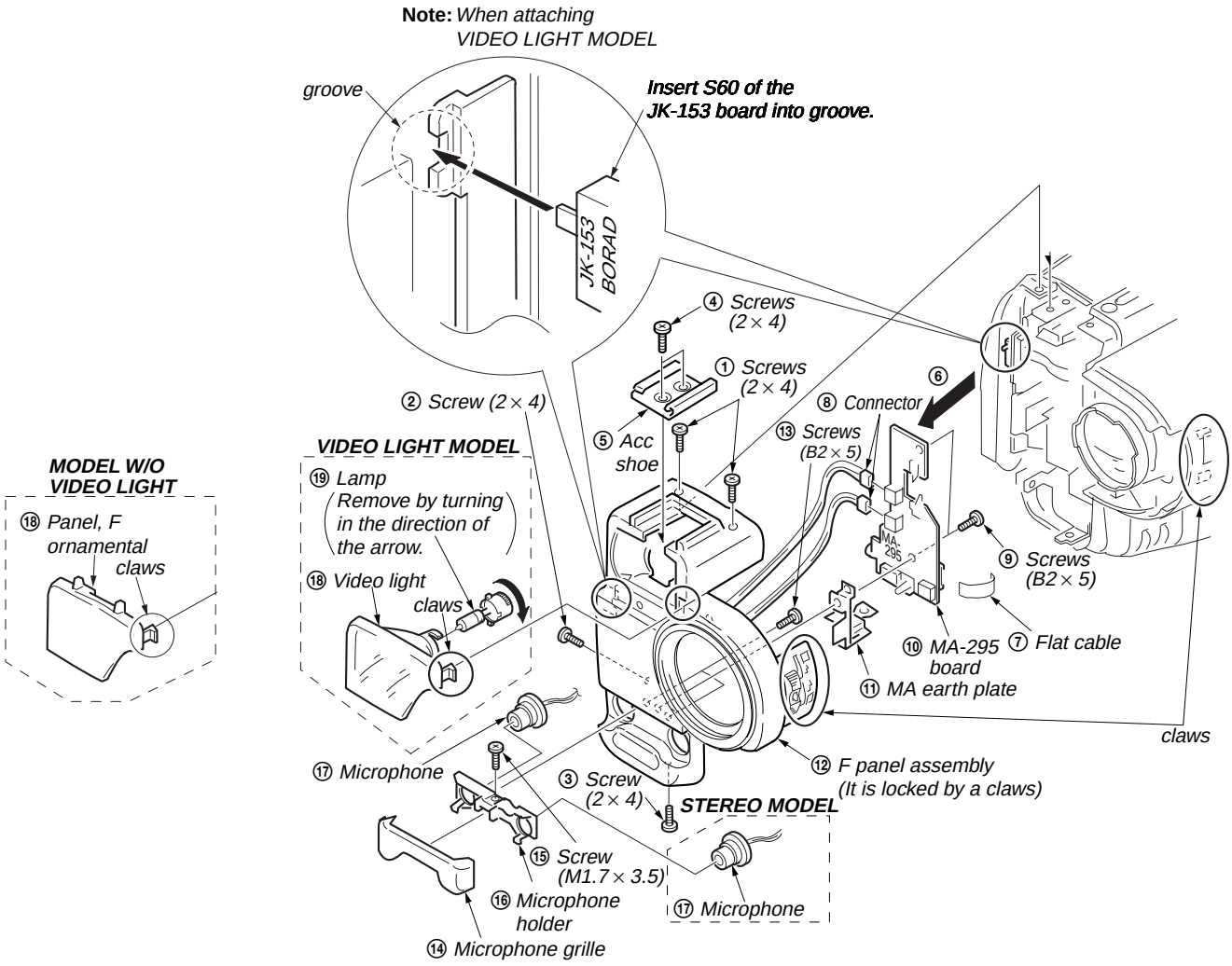
1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.
2 **The tape is near the end.**
3 **The tape has run out.**
4 **No tape has been inserted.**
5 **The tab on the tape is out (red). (p. 11)**
6 **Moisture condensation has occurred. (p. 57)**
⏏ indicator appears only when the cassette is inserted.
7 **The video heads may be contaminated. (p. 58)**
8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.
9 **The lithium battery is weak or is not installed. (p. 49)**
This indicator flashes just only after powering on.

1 **Заряд батареи слабый или израсходован.**
Медленное мигание: заряд батареи слабый.
Быстрое мигание: заряд батареи израсходован.
2 **Лента приближается к концу.**
3 **Лента закончилась.**
4 **Не вставлена кассета.**
5 **На кассете отсутствует лепесток (красный). (стр. 11)**
6 **Произошла конденсация влаги. (стр. 57)**
Индикатор ⏏ появляется только при вставленной кассете.
7 **Возможно загрязнены видеоголовки. (стр. 58)**
8 **Имеют место другие неисправности.**
Отсоедините источник питания и обратитесь в Ваше агенстство фирмы Sony или местное уполномоченное ремонтное предприятие.
9 **Заряд литиевой батарейки является слабым или же литиевая батарейка не установлена. (стр. 49)**
Этот индикатор мигает только после включения питания.

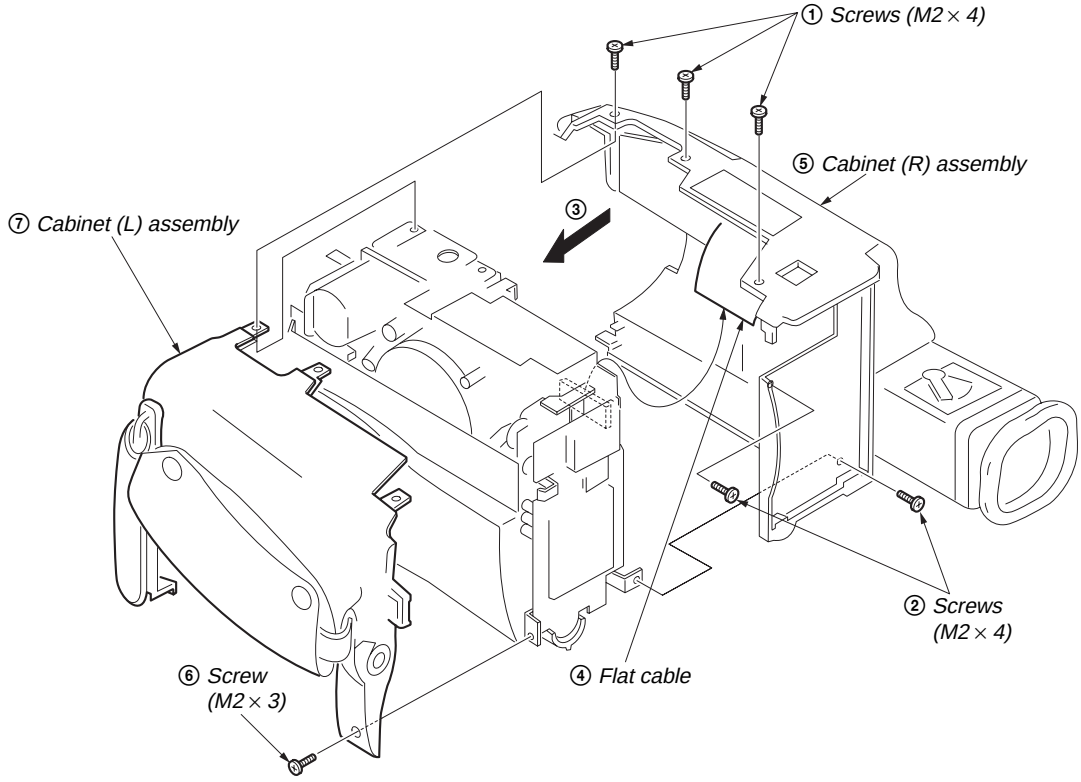
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

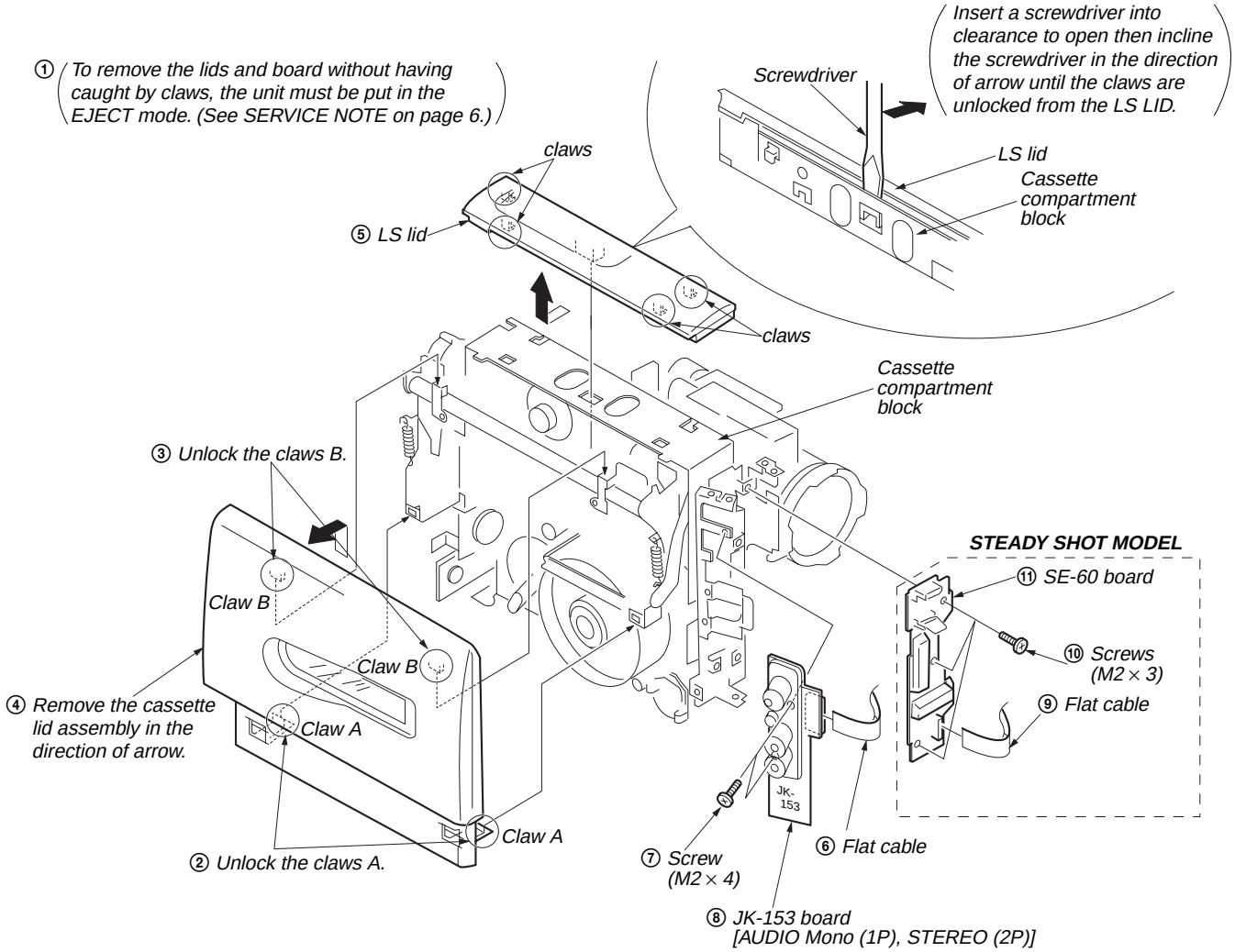
2-1. REMOVAL OF MA-295 BOARD, F PANEL ASSEMBLY and MICROPHONE



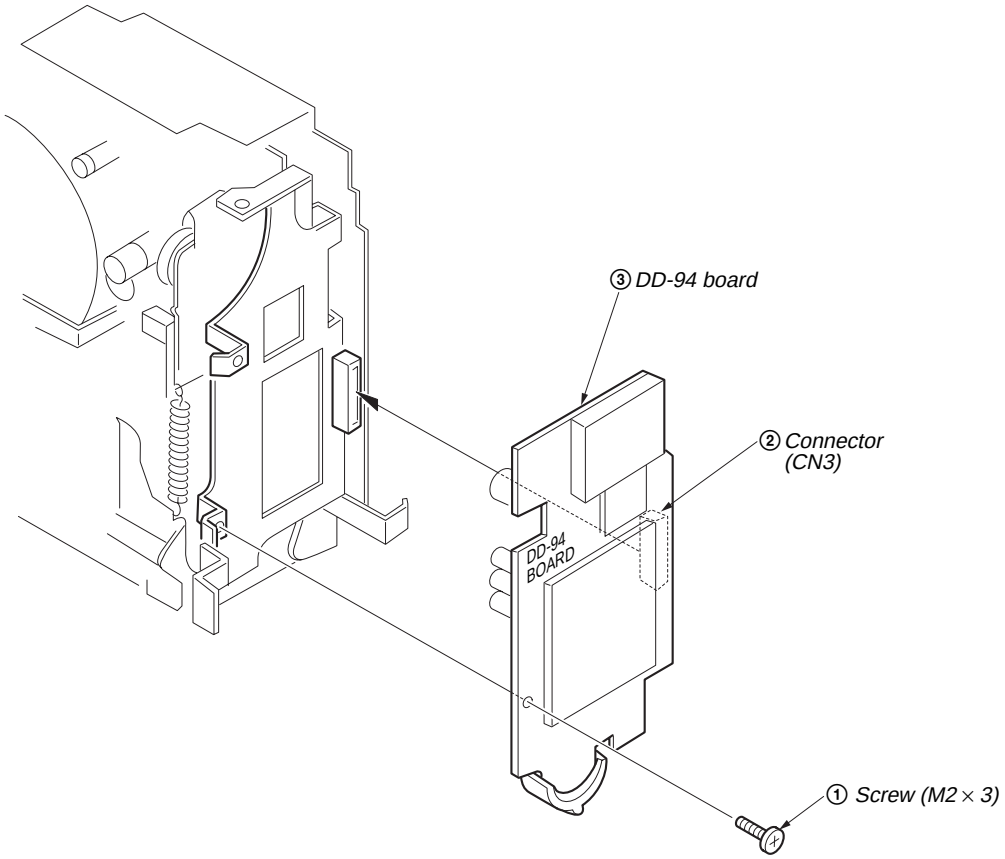
2-2. REMOVAL OF CABINET ASSEMBLY



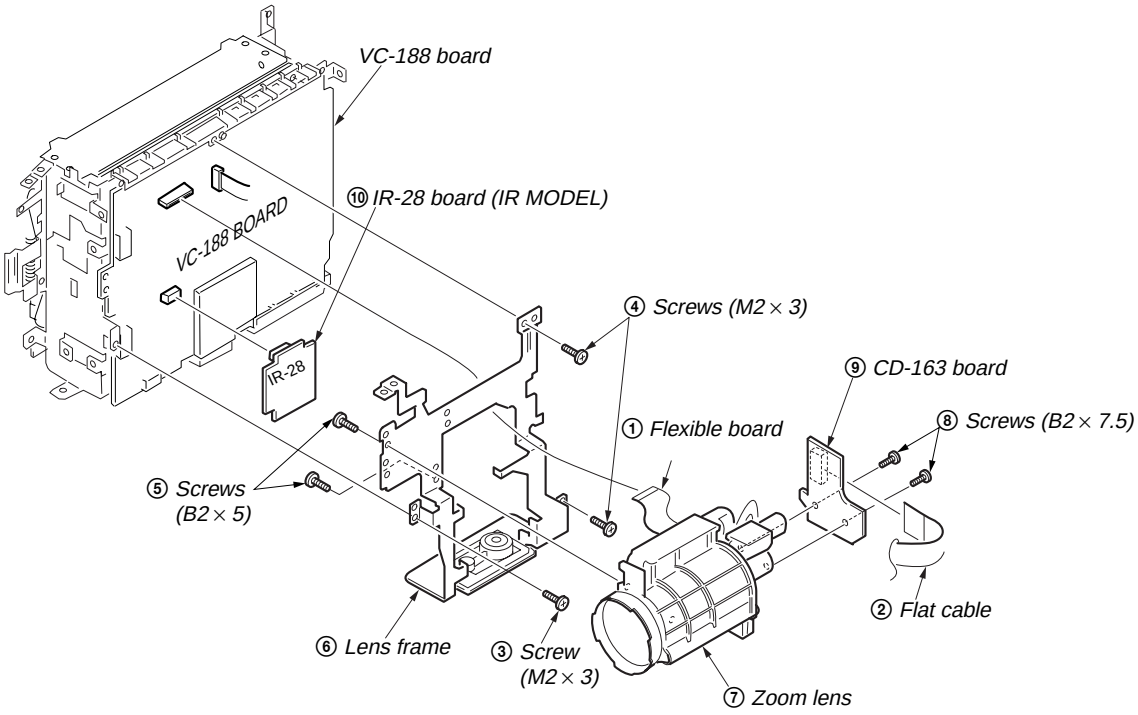
2-3. REMOVAL OF CASSETTE LID ASSEMBLY, LS LID, JK-153 and SE-60 BOARD


① To remove the lids and board without having caught by claws, the unit must be put in the EJECT mode. (See SERVICE NOTE on page 6.)
Insert a screwdriver into clearance to open then incline the screwdriver in the direction of arrow until the claws are unlocked from the LS LID.
Screwdriver
LS lid
Cassette compartment block
claws
⑤ LS lid
claws
Cassette compartment block
③ Unlock the claws B.
STEADY SHOT MODEL
⑪ SE-60 board
⑩ Screws (M2 × 3)
⑨ Flat cable
Claw B
Claw B
④ Remove the cassette lid assembly in the direction of arrow.
Claw A
Claw A
② Unlock the claws A.
JK-153
⑦ Screw (M2 × 4)
⑥ Flat cable
⑧ JK-153 board [AUDIO Mono (1P), STEREO (2P)]

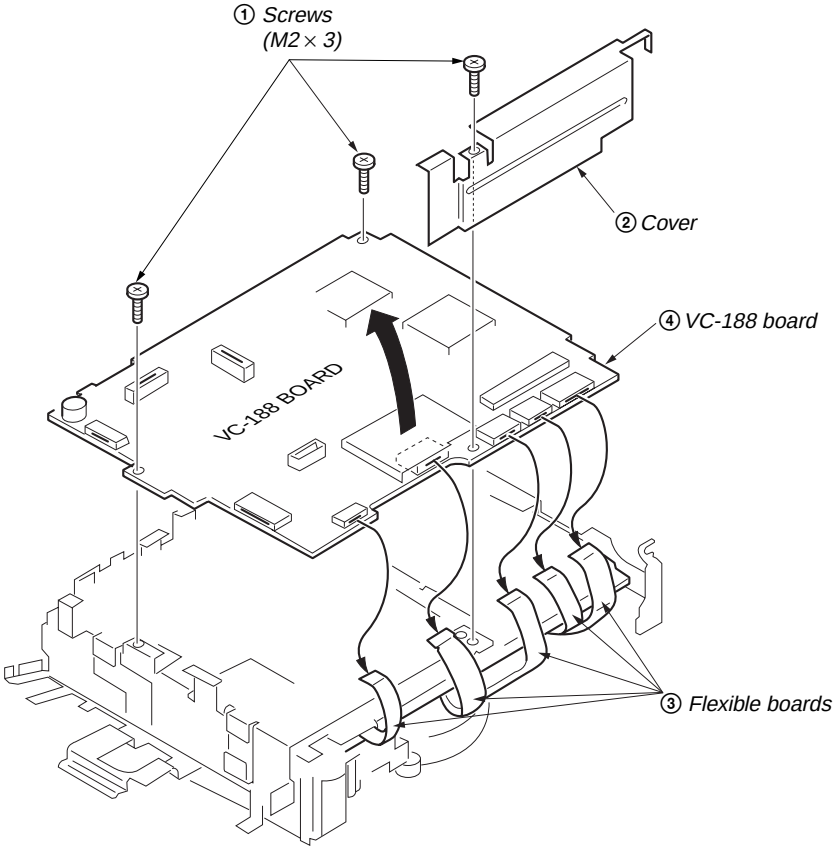
2-4. REMOVAL OF DD-94 BOARD



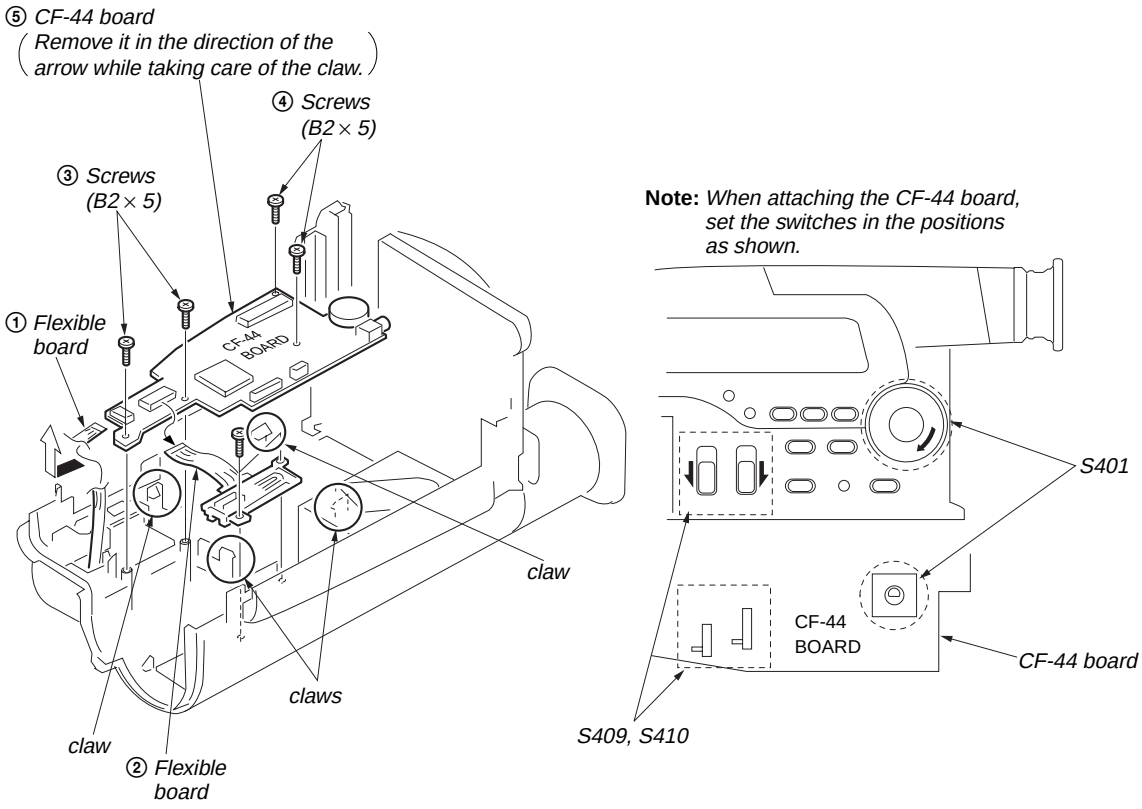
2-5. REMOVAL OF ZOOM LENS, CD-163 and IR-28 BOARD



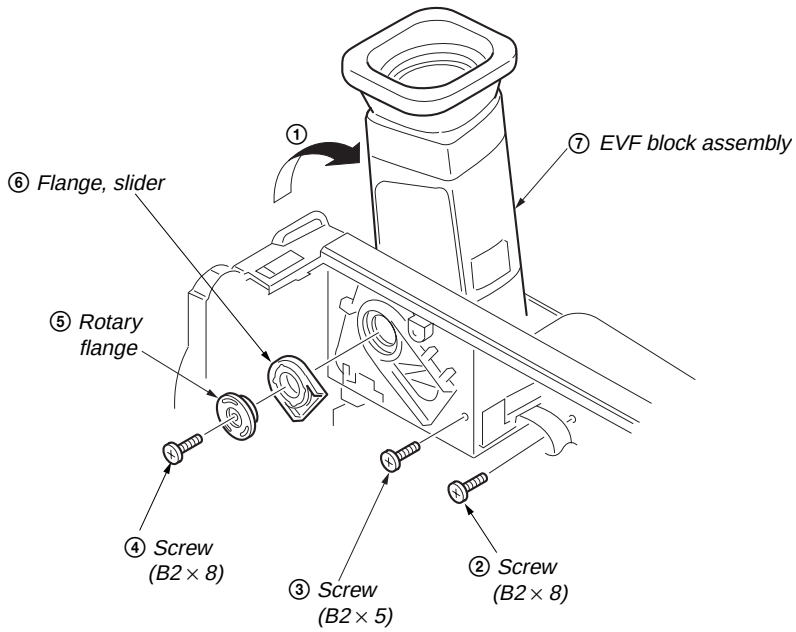
2-6. REMOVAL OF VC-188 BOARD



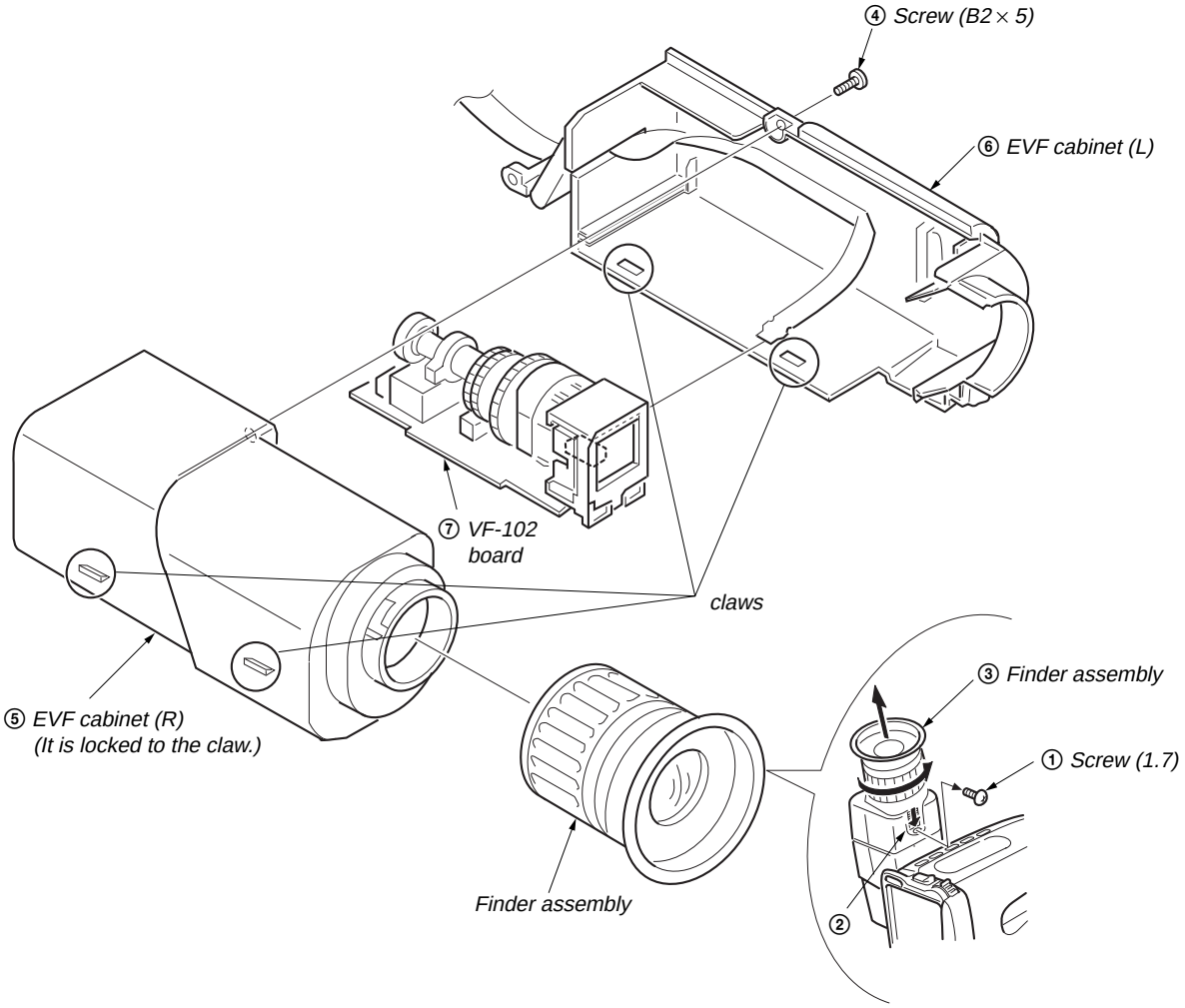
2-7. REMOVAL OF CF-44 BOARD



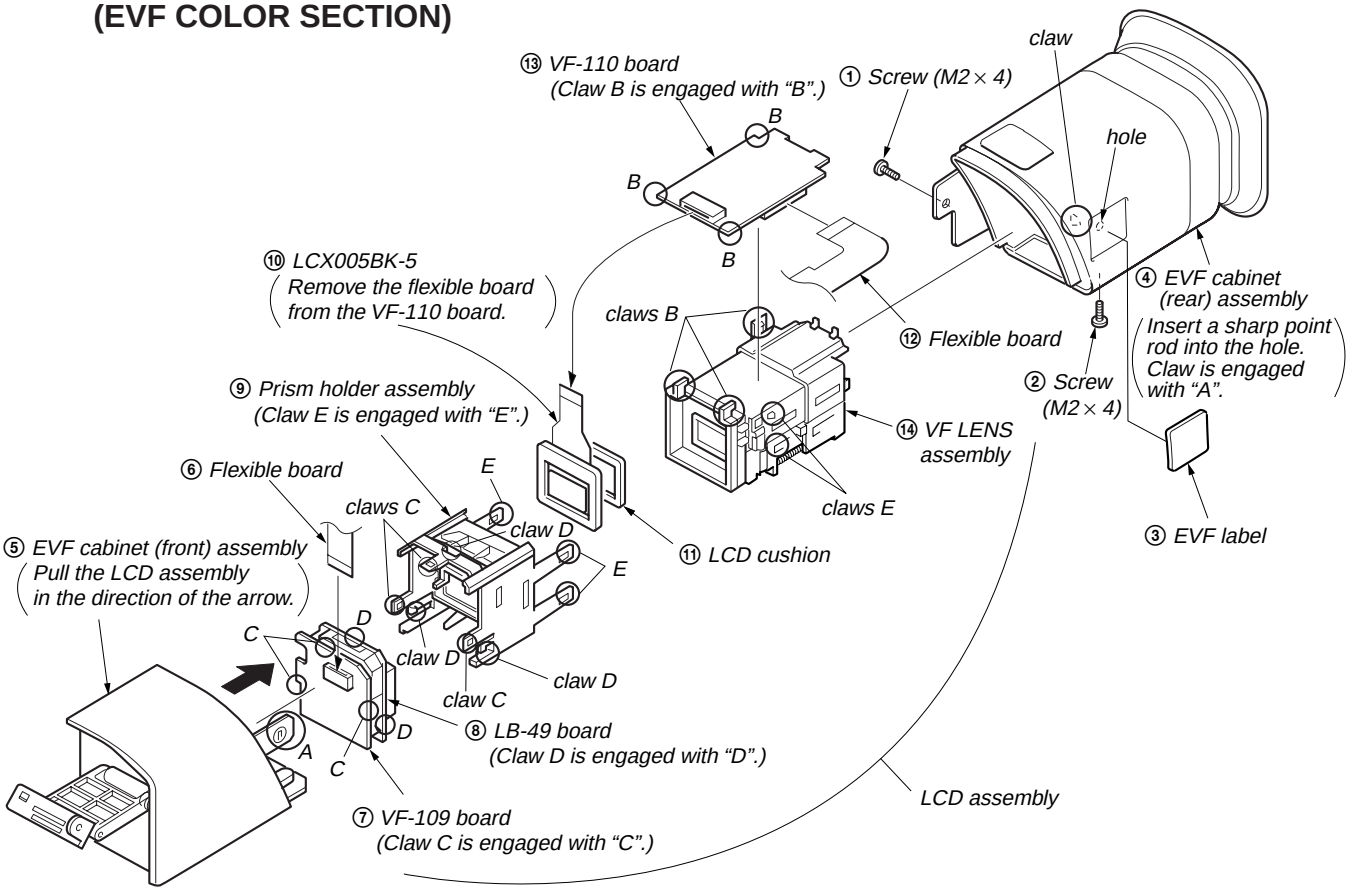
2-8. REMOVAL OF EVF BLOCK ASSEMBLY



2-9. REMOVAL OF EVF CABINET and VF-102 BOARD (EVF B/W SECTION)

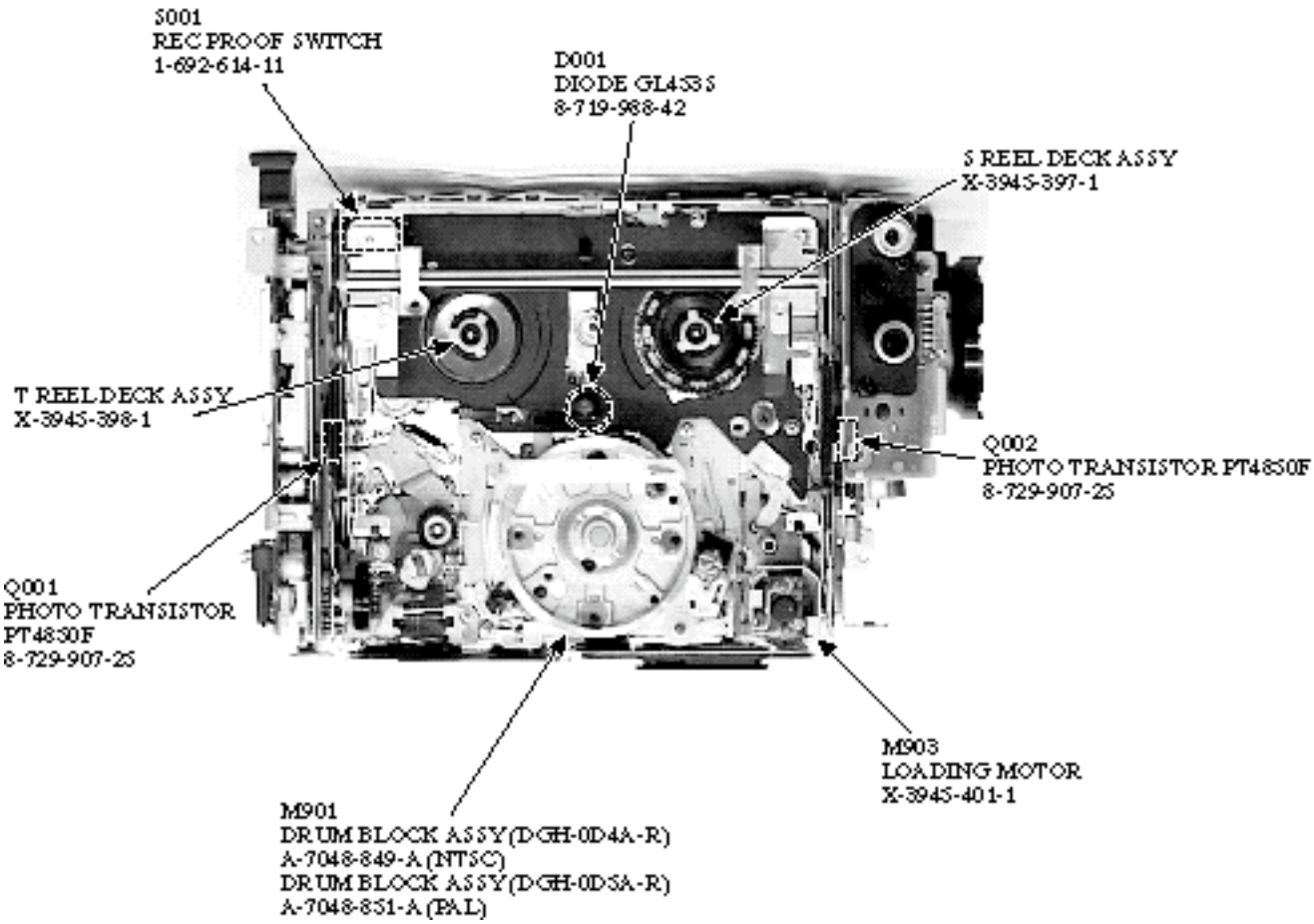


2-10. REMOVAL OF EVF CABINET, VF-109, LB-49 and VF-110 BOARD (EVF COLOR SECTION)

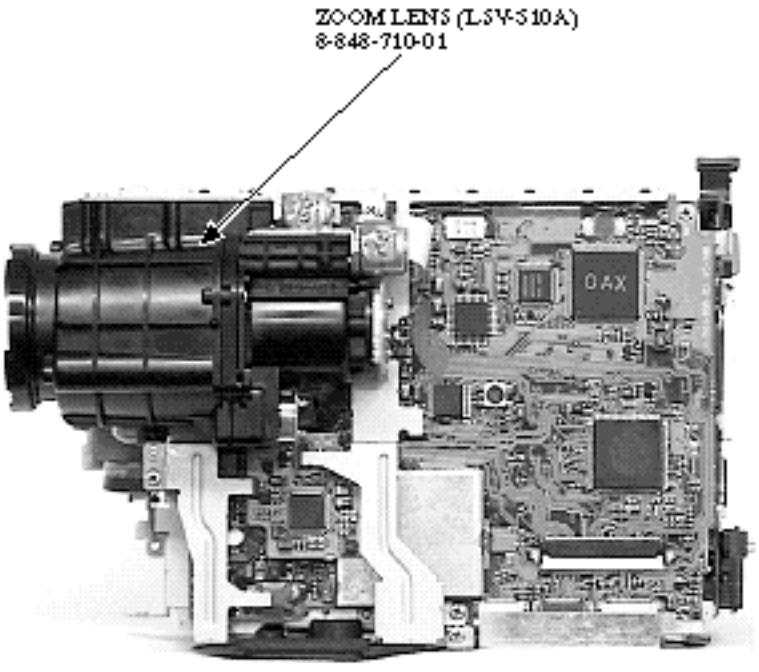


2-11. INTERNAL VIEWS

— LEFT SIDE —

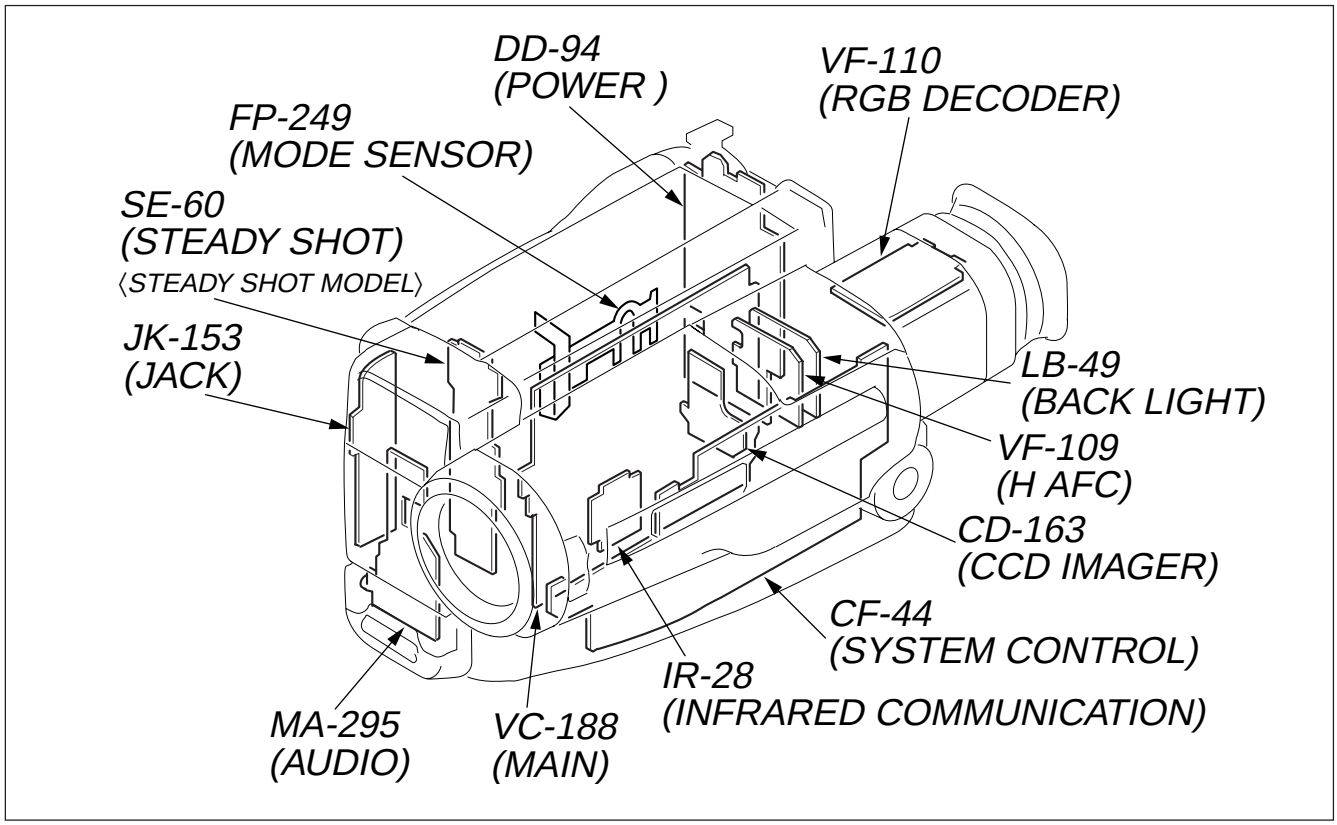


— RIGHT SIDE —

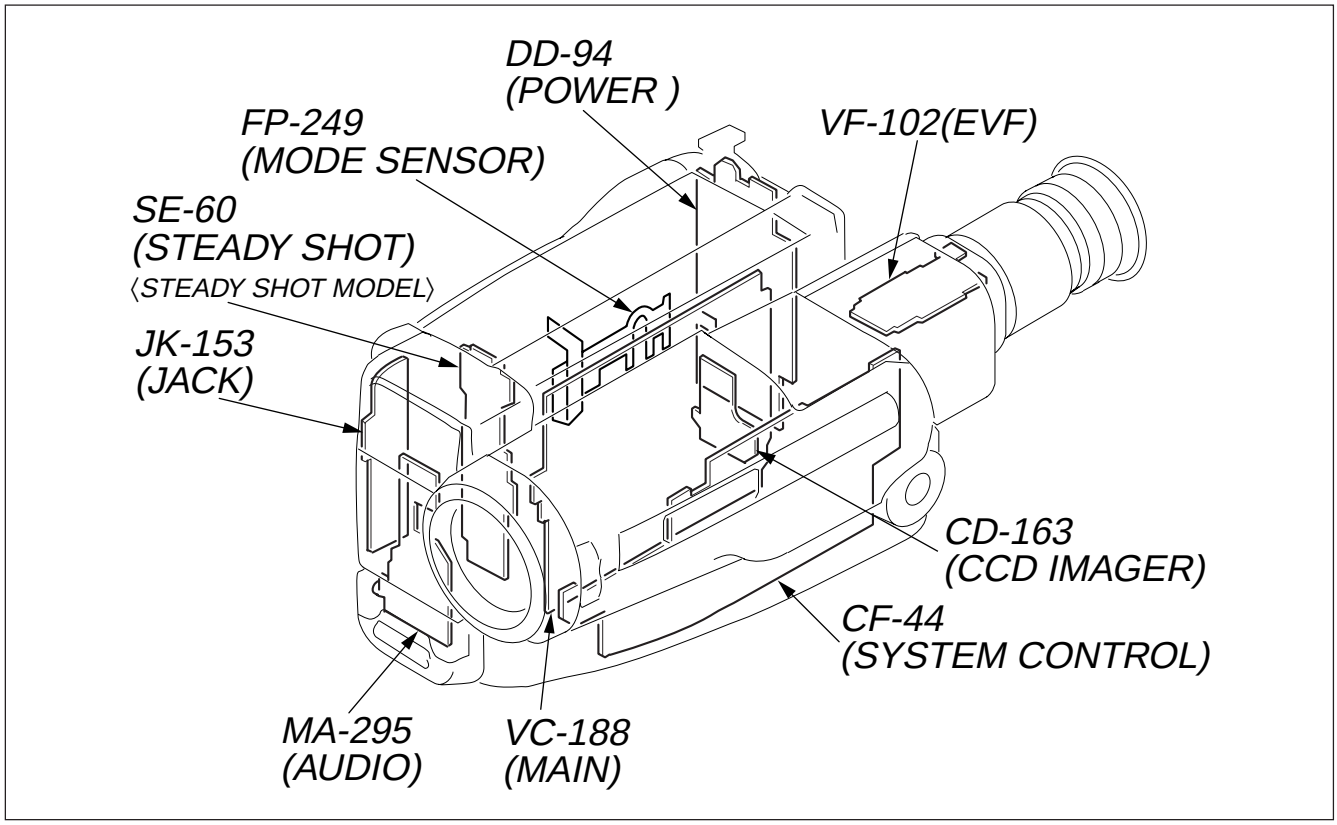


2-12. CIRCUIT BOARDS LOCATION

COLOR EVF MODEL

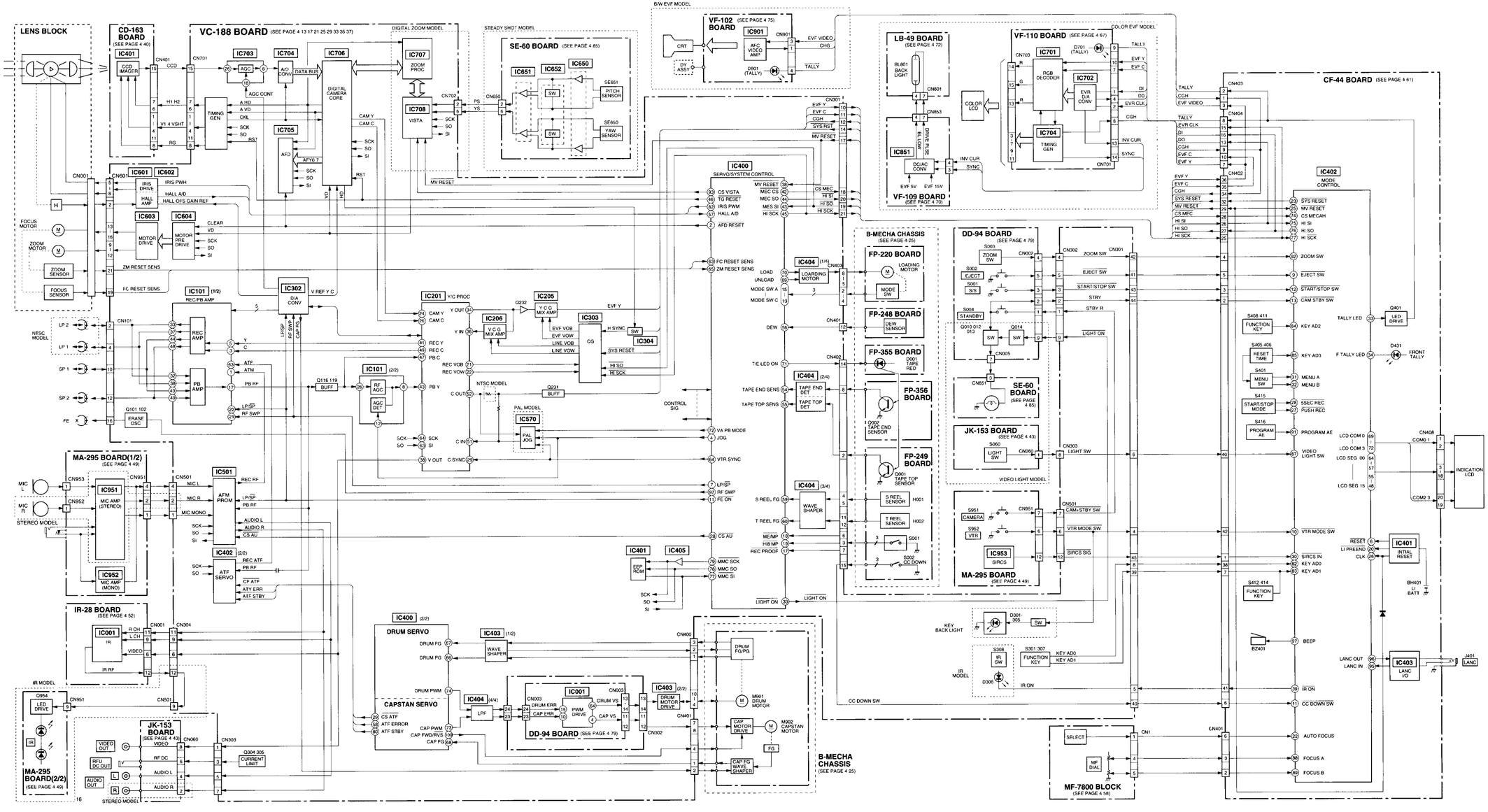


B/W EVF MODEL

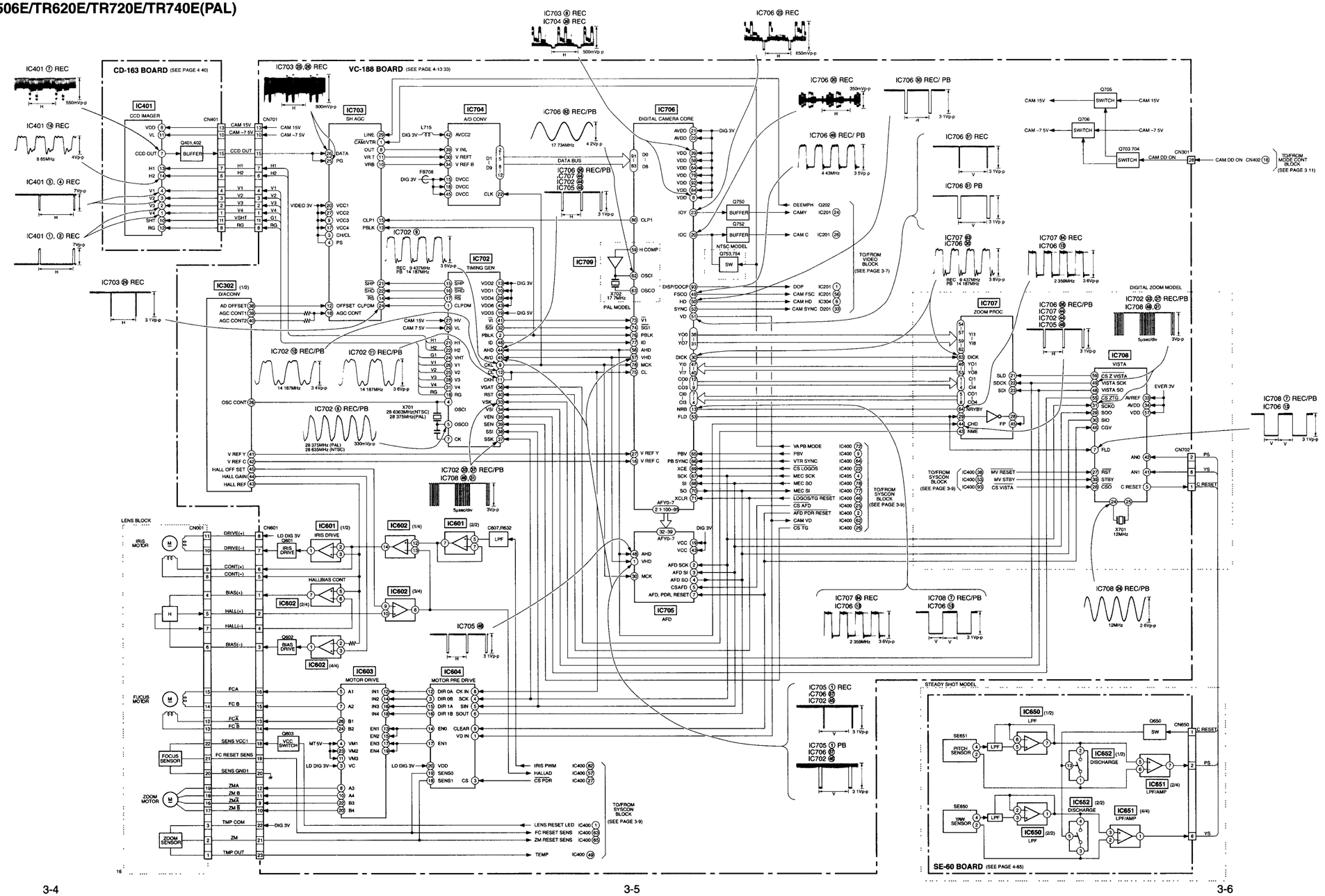


SECTION 3
BLOCK DIAGRAMS

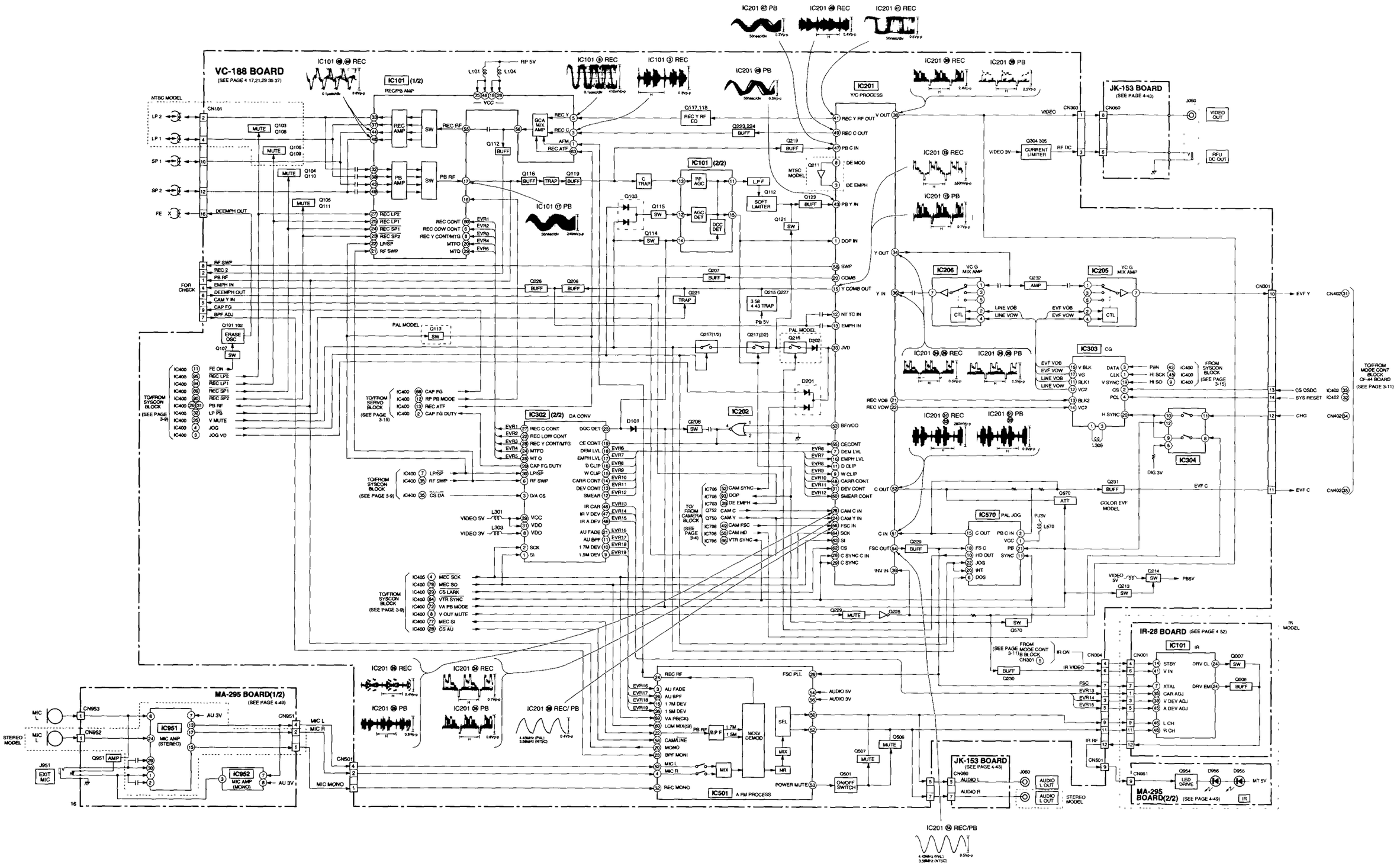
3-1. OVERALL BLOCK DIAGRAM


LENS BLOCK
CD-163 BOARD
VC-188 BOARD (SEE PAGE 4 13 17 21 25 29 33 35 37)
DIGITAL ZOOM MODEL
STEADY SHOT MODEL
SE-60 BOARD (SEE PAGE 4 85)
B/W EVF MODEL
VF-102 BOARD (SEE PAGE 4 75)
LB-49 BOARD (SEE PAGE 4 72)
VF-110 BOARD (SEE PAGE 4 67)
COLOR EVF MODEL
VF-109 BOARD (SEE PAGE 4 70)
CF-44 BOARD (SEE PAGE 4 61)
IC400 SERVO/SYSTEM CONTROL
IC402 MODE CONTROL
B-MECHA CHASSIS (SEE PAGE 4 25)
FP-220 BOARD
FP-248 BOARD
FP-355 BOARD
FP-356 BOARD
FP-249 BOARD
DD-94 BOARD (SEE PAGE 4 79)
JK-153 BOARD (SEE PAGE 4 43)
MA-295 BOARD (SEE PAGE 4 49)
MA-295 BOARD(1/2) (SEE PAGE 4 49)
MA-295 BOARD(2/2) (SEE PAGE 4 49)
IR-28 BOARD (SEE PAGE 4 52)
DRUM SERVO
CAPSTAN SERVO
DD-94 BOARD (SEE PAGE 4 79)
MF-7800 BLOCK (SEE PAGE 4 58)
INDICATION LCD
NTSC MODEL
PAL MODEL
STEREO MODEL
IR MODEL

3-2. CAMERA BLOCK DIAGRAM



3-3. VIDEO/AUDIO BLOCK DIAGRAM


VC-188 BOARD
(SEE PAGE 4 17,21,29 35 37)
IC101 (1/2)
REC/PB AMP
IC101 (2/2)
IC201
Y/C PROCESS
JK-153 BOARD
(SEE PAGE 4-43)
IC206
YC G MIX AMP
IC205
YC G MIX AMP
IC303
CG
IC304
IC570
PAL JOG
IC302 (2/2)
DA CONV
IC202
IR-28 BOARD
(SEE PAGE 4 52)
IC101
IR
MA-295 BOARD(1/2)
(SEE PAGE 4-49)
IC951
MIC AMP (STEREO)
IC952
MIC AMP (MONO)
IC501
A FM PROCESS
JK-153 BOARD
(SEE PAGE 4-43)
MA-295 BOARD(2/2)
(SEE PAGE 4-49)
NTSC MODEL
PAL MODEL
STEREO MODEL
IR MODEL
COLOR EVF MODEL
TO/FROM SYSCON BLOCK (SEE PAGE 3-9)
TO/FROM SERVO BLOCK (SEE PAGE 3-15)
TO/FROM SYSCON BLOCK (SEE PAGE 3-15)
TO/FROM MODE CONT BLOCK CF-44 BOARD (SEE PAGE 3-11)
TO/FROM CAMERA BLOCK (SEE PAGE 3-4)
FROM (SEE PAGE MODE CONT 3-11) B BLOCK
FOR CHECK
REC VOB
REC VOW
EVF VOB
EVF VOW
LINE VOB
LINE VOW
VIDEO OUT
RFU DC OUT
CURRENT LIMITER
ERASE OSC
EXIT MIC
DEEMPH OUT
REC RF
PB RF
REC Y
REC C
REC ATF
REC Y RF OUT
REC C OUT
PB C IN
PB Y IN
DOP IN
SWP
COMB
Y COMB OUT
NT TC IN
EMPH IN
JVD
BF/VCO
CECONT
DEM LVL
EMPH LVL
D CLIP
W CLIP
CARR CONT
DEV CONT
SMEAR CONT
CAM C IN
CAM Y IN
FSC IN
SCK
SI
CS
C SYNC C IN
C SYNC
V OUT
Y OUT
Y IN
C IN
FSC OUT
INV IN
C OUT
PB C IN
FS C
HD OUT
JOG
INT
DOS
VCC
PB
SYNC
DE MOD
DE EMPH
PB Y IN
CS OSDC
SYS RESET
CHG
EVF C
EVF Y
H SYNC
V BLK
VG
BLK1
VC2
BLK2
DATA
CLK
V SYNC
CS
PCL
PBN
HI SCK
HI SO
VIDEO
VIDEO 3V
RF DC
VIDEO 5V
PB5V
DIG 3V
P 13V
AU 3V
VCC
VDD
SCK
SI
CS DA
D/A CS
LP/SP
RF SWP
CAP FG
RP 5V
MUTE
Q103 Q108
Q106 Q109
Q104 Q110
Q105 Q111
Q101 102
Q107
Q113
Q112
Q116
Q119
Q115
Q114
Q117,118
Q223,224
Q219
Q211
Q123
Q121
Q207
Q221
Q225
Q206
Q215 Q227
Q217(1/2)
Q217(2/2)
Q216
Q208
Q232
Q231
Q570
Q229
Q214
Q213
Q228
Q506
Q507
Q501
Q954
Q007
Q006
D202
D201
D101
L101
L104
L301
L303
L305
L570
REC LP2
REC LP1
REC SP1
REC SP2
LP/SP
RF SWP
REC CONT
REC COW CONT
REC Y CONT/MTG
MTFO
MTO
EVR1
EVR2
EVR3
EVR4
EVR5
FE ON
V MUTE
JOG
JOG VD
PB RF
CAP FG DUTY
REC ATF
MEC SCK
MEC SO
CS LARK
VTR SYNC
VA PB MODE
V OUT MUTE
MEC SI
CS AU
RF SWP
REC 2
PB RF
EMPH IN
DEEMPH OUT
CAM Y IN
CAP FG
BPF ADJ
REC CONT
REC LOW CONT
REC C CONT
REC Y CONT/MTG
MTFO
MT Q
CAP FG DUTY
LP/SP
RF SWP
D/A CS
VCC
VDD
VDD
SCK
SI
DOC DET
CE CONT
DEM LVL
EMPH LVL
D CLIP
W CLIP
CARR CONT
DEV CONT
SMEAR
IR CAR
IR V DEV
IR A DEV
AU FADE
AU BPF
1.7M DEV
1.5M DEV
EVR6
EVR7
EVR8
EVR9
EVR10
EVR11
EVR12
EVR13
EVR14
EVR15
EVR16
EVR17
EVR18
EVR19
CAM SYNC
DOP
DE EMPH
CAM C
CAM Y
CAM FSC
CAM HD
VTR SYNC
IR ON
IR VIDEO
FSC
CAR ADJ
V DEV ADJ
A DEV ADJ
L CH
R CH
STBY
V IN
XTAL
DRV CL
DRV EM
LED DRIVE
MT 5V
AUDIO 5V
AUDIO 3V
AUDIO L
AUDIO R
AUDIO L OUT
AUDIO L OUT
FSC PLL
REC MONO
MIC MONO
MIC L
MIC R
CAMLINE
MONO
BPF MONI
LCM MIX(SI)
VA PB(CK)
1.5M DEV
1.7M DEV
AU BPF
AU FADE
REC RF
MOD/ DEMOD
BPF
SEL
MIX
NR
POWER MUTE
ON/OFF SWITCH
IC201 REC
IC201 PB
IC201 REC/PB
IC201 REC/ PB
IC101 PB
IC101 REC
IC400
IC405
IC706
IC703
Q752
Q750
IC705
IC707
CN101
CN303
CN060
CN301
CN304
CN001
CN951
CN501
CN402
J060
J951
J952
J953
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J956
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J961
J962
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J992
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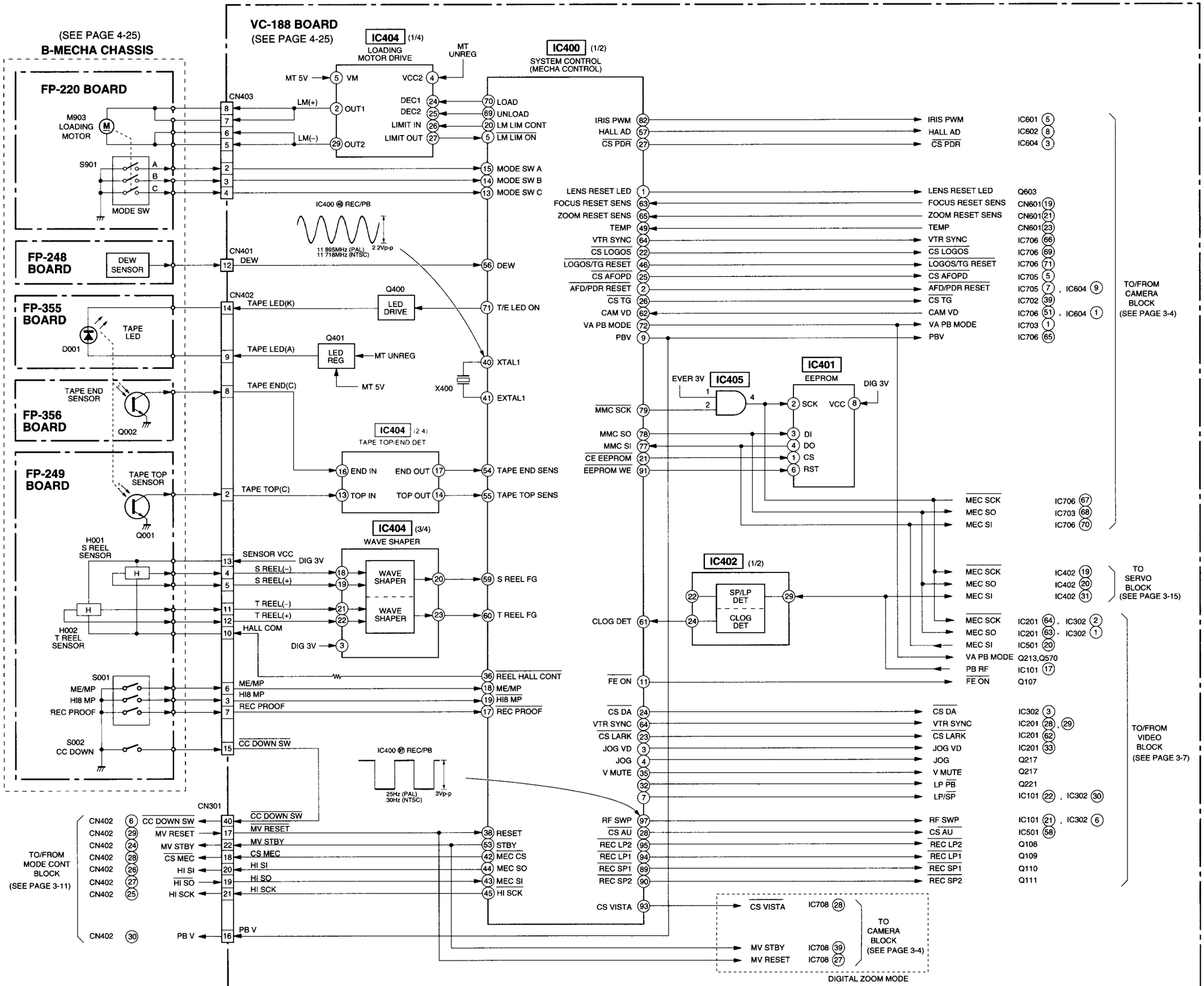
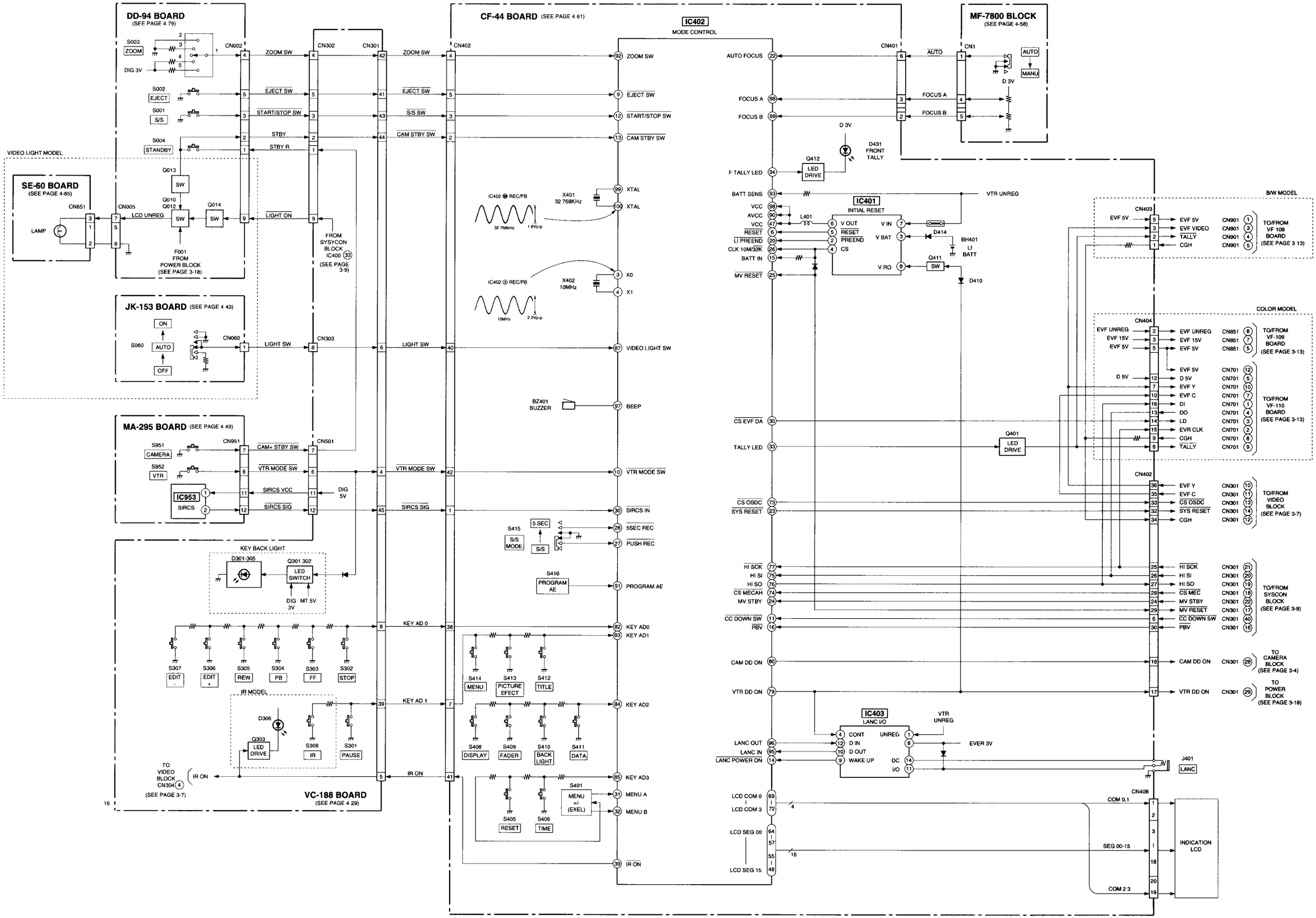
J995
J996
J997
J998
J999
J1000

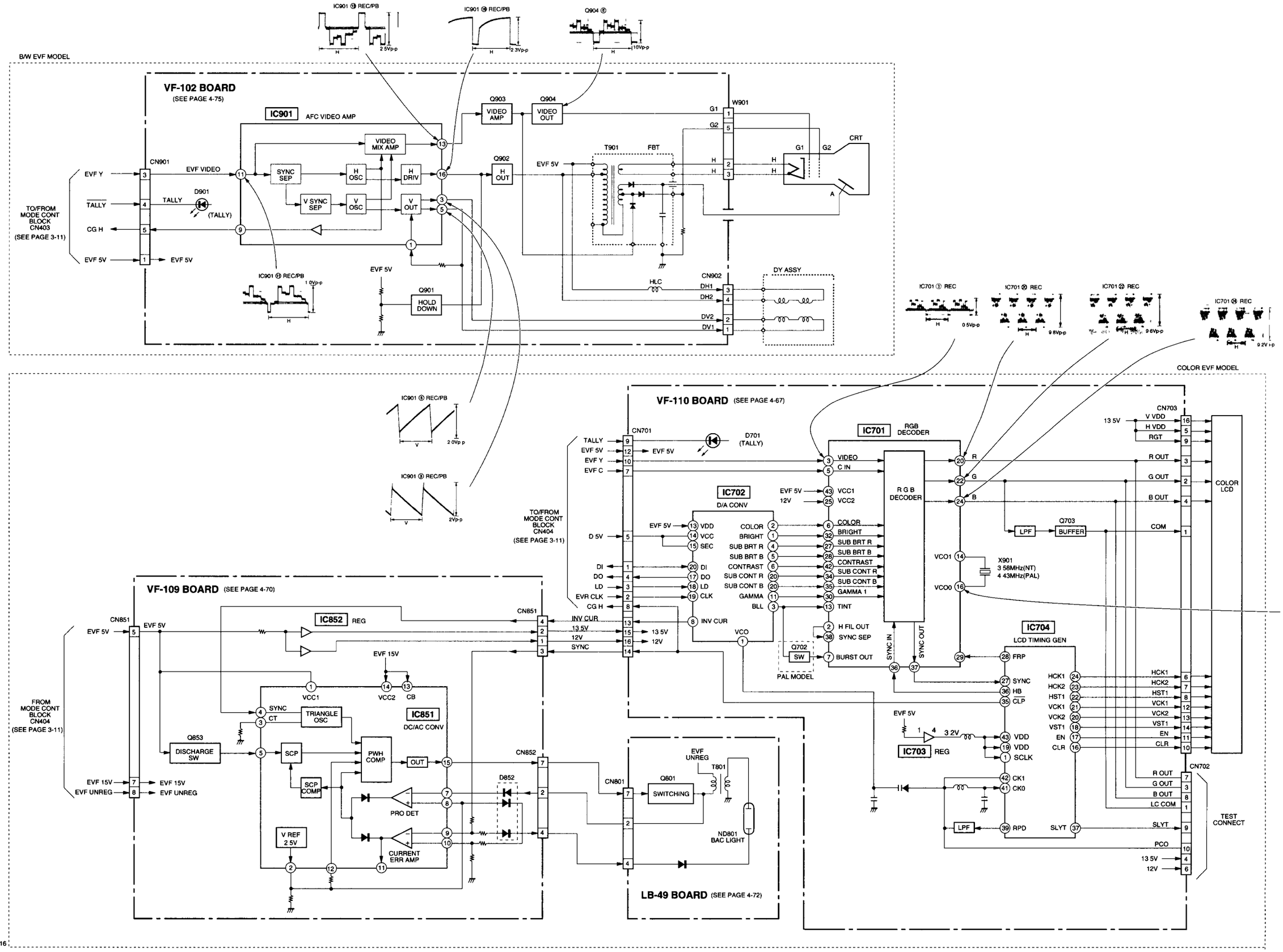
3-4. SYSTEM CONTROL BLOCK DIAGRAM



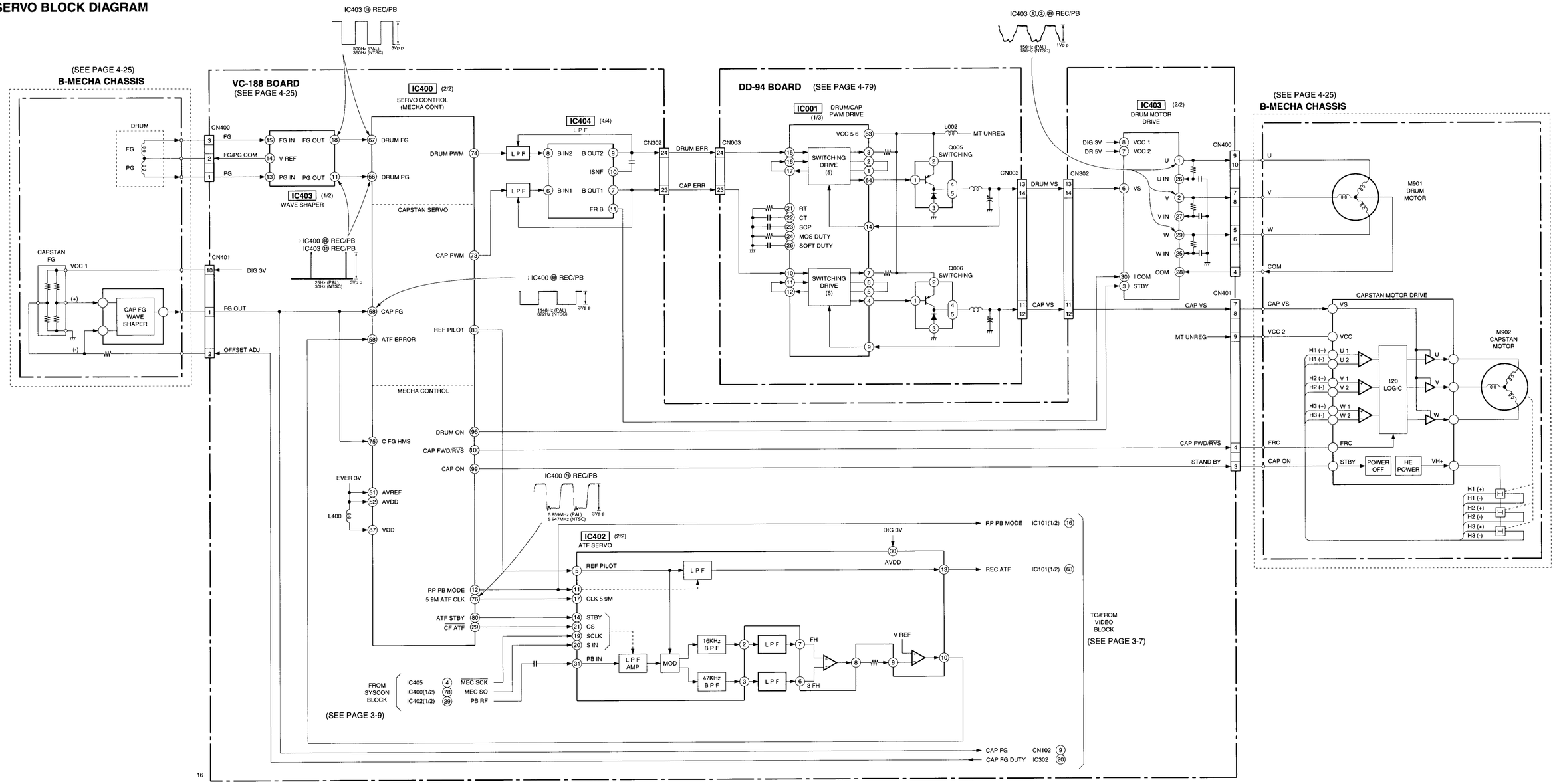
3-5. MODE CONTROL BLOCK DIAGRAM



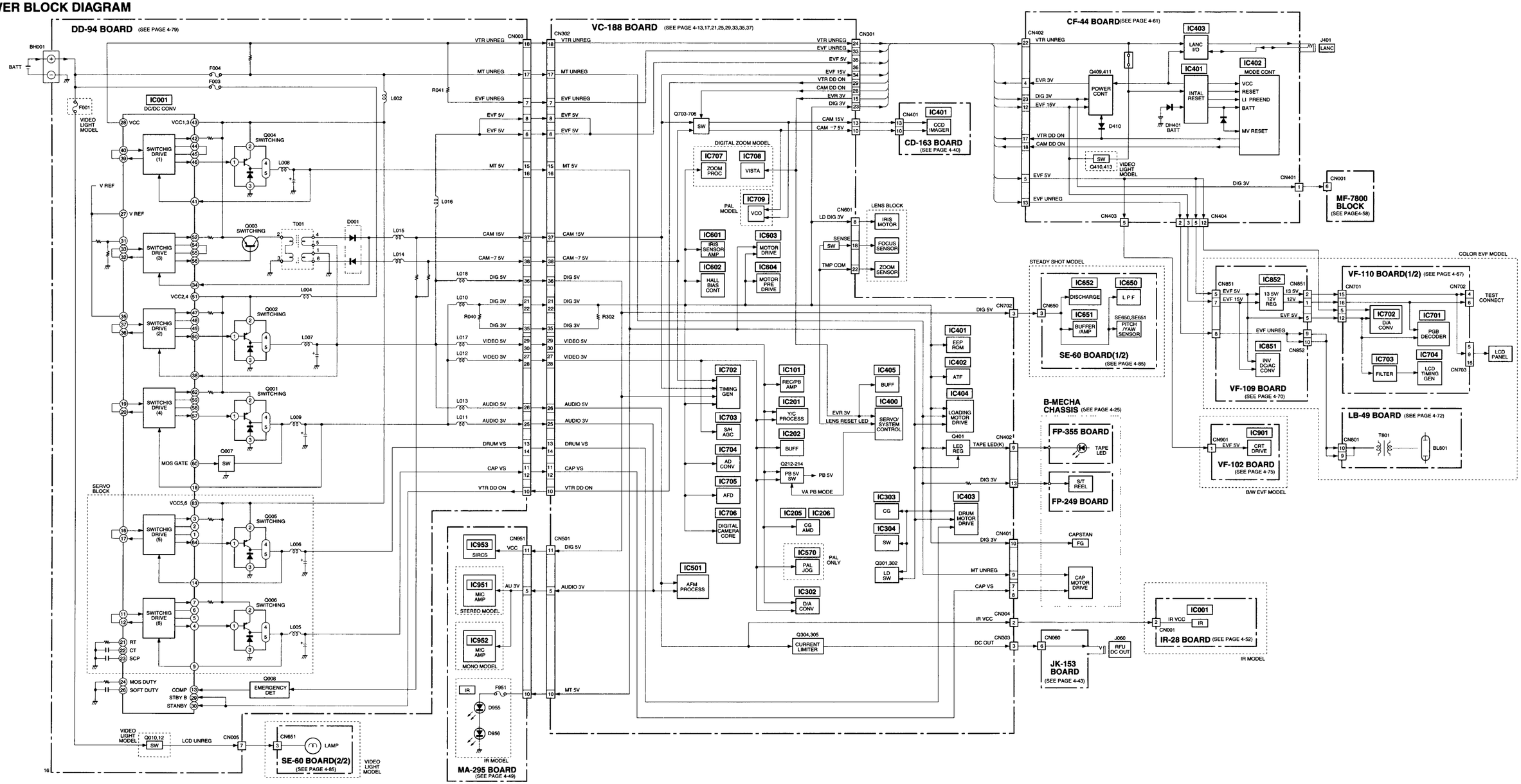
3-6. EVF BLOCK DIAGRAM



3-7. SERVO BLOCK DIAGRAM

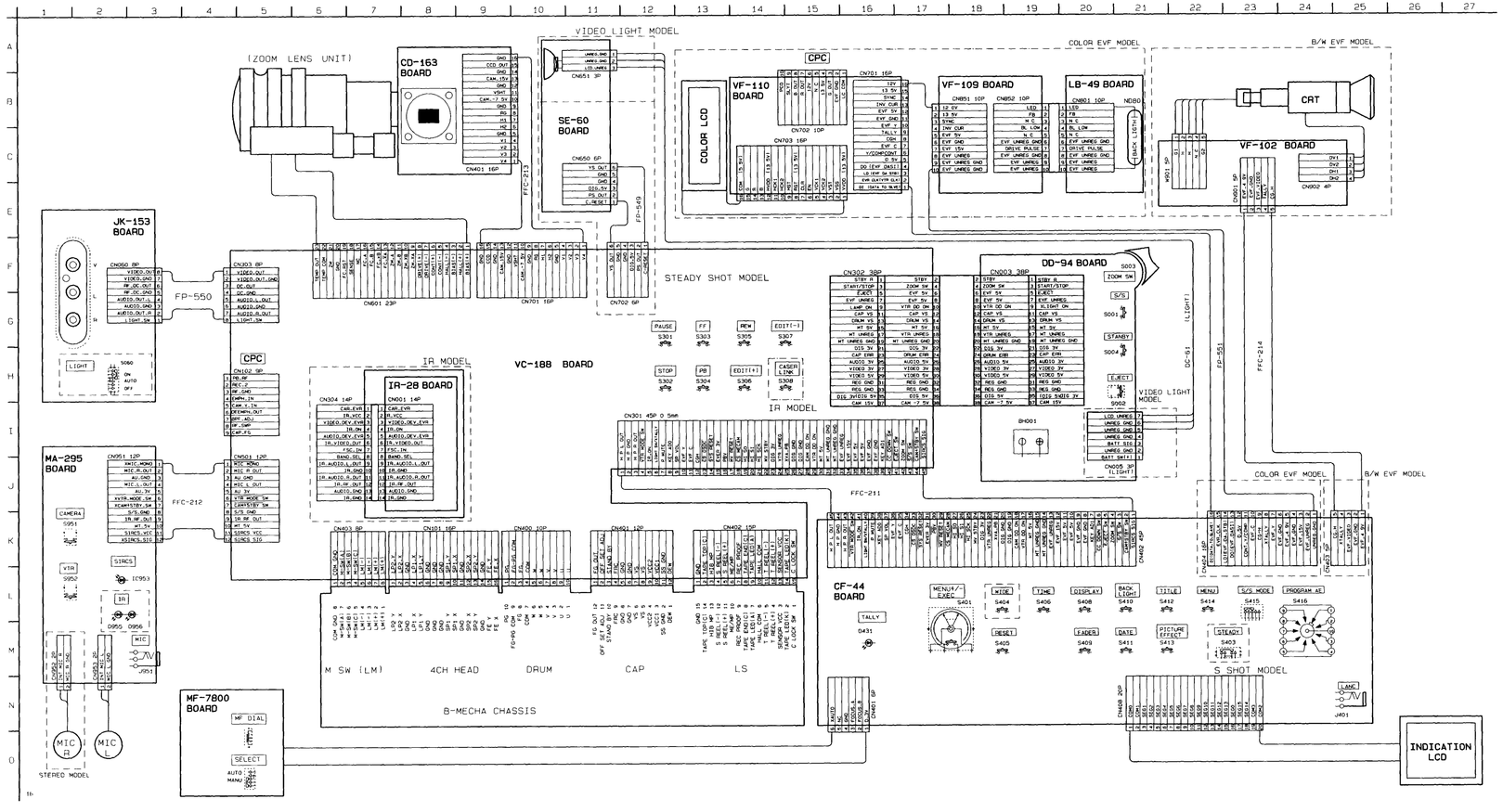


3-8. POWER BLOCK DIAGRAM



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM

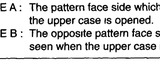


THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For printed wiring boards.**
- ▬▬ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- ● : Through hole is omitted.
- Printed wiring board which has four layers structure but inner two layers' patterns are omitted

Caution :
SIDE A : The pattern face side which is seen when the upper case is opened.
SIDE B : The opposite pattern face side to the pattern seen when the upper case is opened.

- Chip parts (transistor)



C: Collector
B: Base
E: Emitter

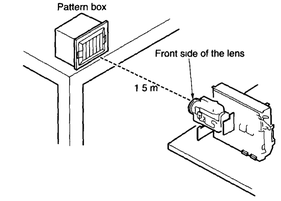
- **For schematic diagrams.**
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistor are in ohms, 1/4W unless otherwise noted. Chip resistor are 1/10W unless otherwise noted. kΩ: 1000Ω, MΩ, : 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair. *
- ▬ : B+Line. *
- ▬▬ : B+Line. *
- ➡ : IN/OUT direction of (+,–) B LINE. *
- Circled numbers refer to waveforms. *
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values * and reference waveforms. (VOM of DC 10 MΩ input impedance is used.)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

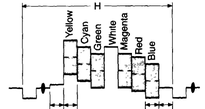


Fig a (Video output terminal output waveform)

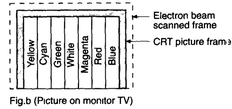


Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

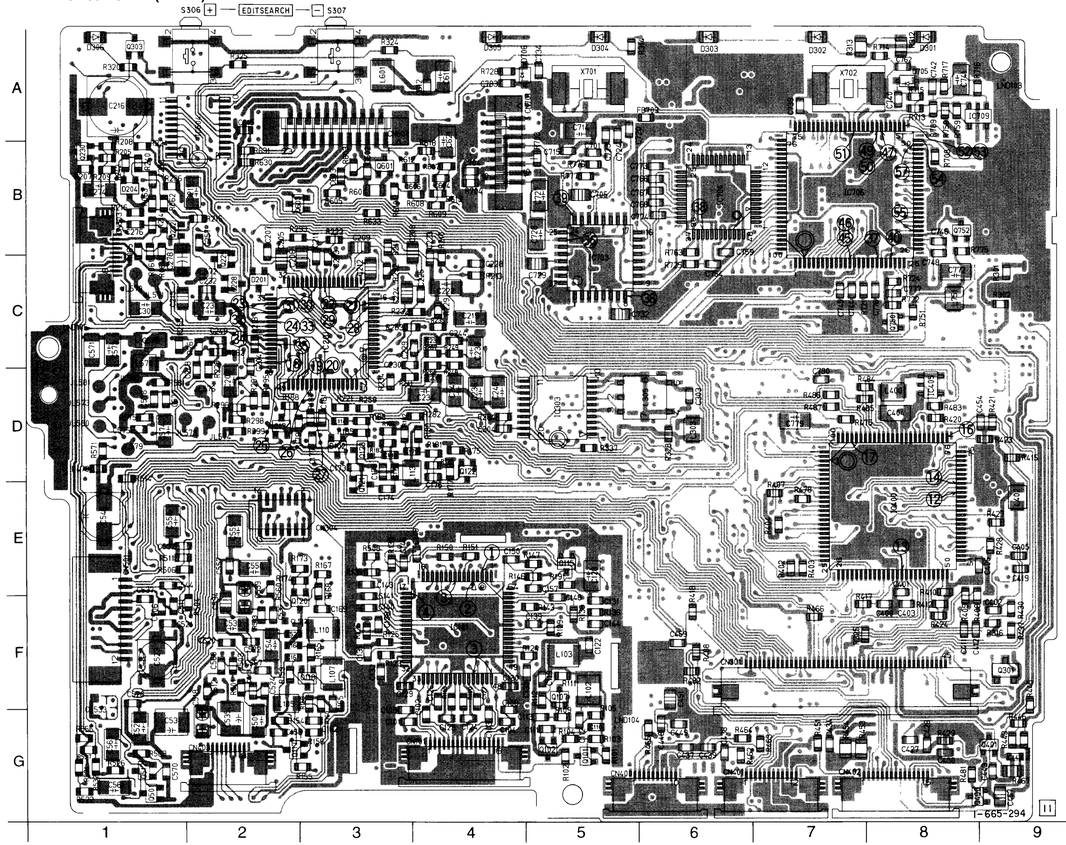
- * : indicated by the color red.

FRAME SCHEMATIC DIAGRAM

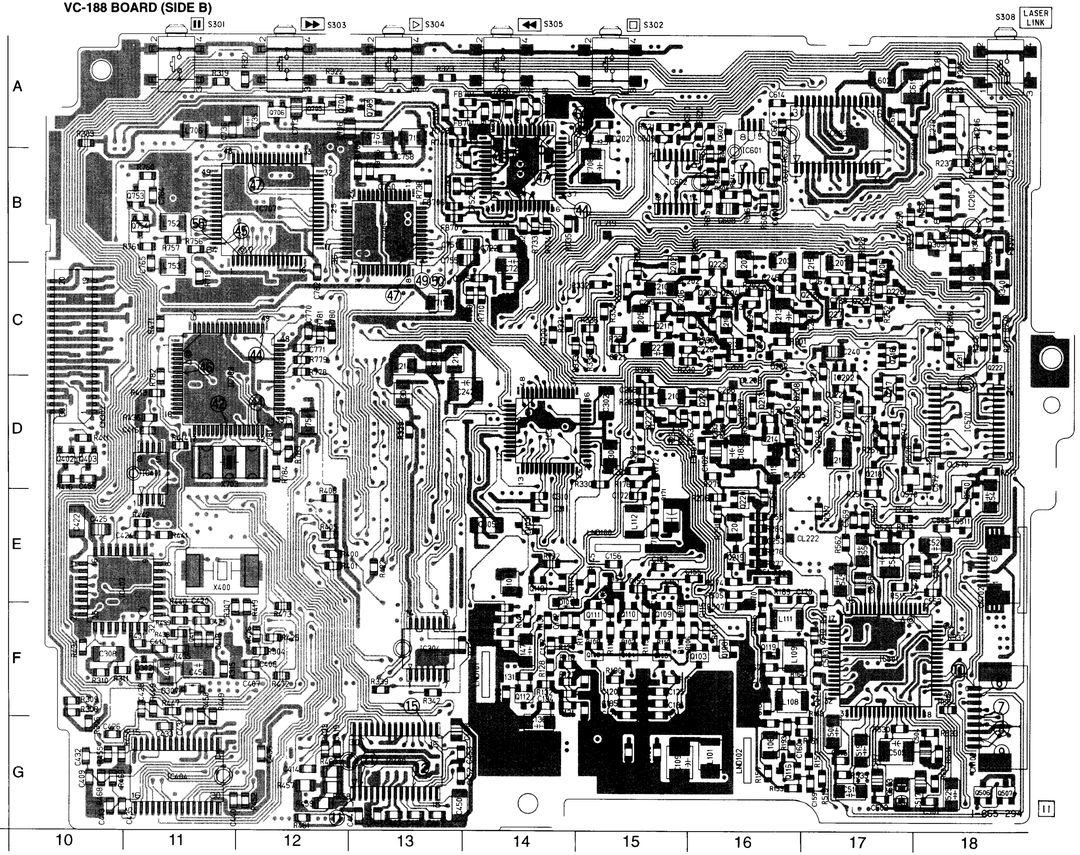
VC-188 (MAIN) PRINTED WIRING BOARD
— Ref. No VC-188 Board, 1,000 Series —

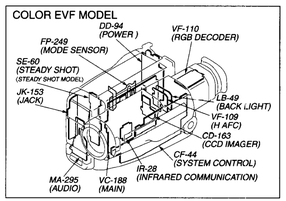
There are few cases that the part printed on this diagram isn't mounted in this model.

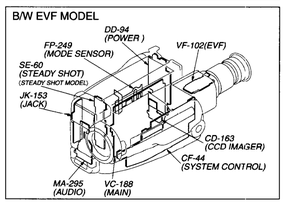
VC-188 BOARD (SIDE A)



VC-188 BOARD (SIDE B)







VC-188 BOARD

C101	G-3	C202	D-2	C406	E-9	C539	E-2	C757	A-13	IC501	F-17	Q119	F-16	R123	F-5	R223	C-15	R314	A-5	R453	G-7	R620	A-16
C102	F-4	C203	C-3	C407	F-12	C541	F-2	C758	B-13	IC570	D-18	Q121	E-3	R124	F-5	R224	B-1	R315	F-11	R454	G-7	R621	A-15
C103	G-4	C204	C-2	C408	F-12	C543	E-17	C759	B-6	IC601	B-16	Q122	D-4	R125	F-5	R225	C-2	R316	F-9	R455	G-10	R630	B-2
C104	G-4	C205	B-2	C409	G-10	C544	E-1	C764	B-11	IC602	B-15	Q123	D-3	R129	F-5	R226	C-15	R317	E-17	R456	G-10	R631	B-2
C105	G-3	C206	C-2	C410	F-11	C546	E-1	C765	C-11	IC603	A-17	Q202	C-15	R132	F-14	R228	C-17	R319	A-11	R458	G-12	R632	B-16
C106	G-15	C207	B-2	C411	F-8	C548	E-18	C770	C-12	IC604	A-2	Q206	C-17	R133	F-14	R229	C-4	R320	A-1	R459	G-12	R633	B-3
C107	G-15	C208	B-4	C412	F-8	C550	E-2	C771	C-12	IC702	B-14	Q208	D-16	R134	F-14	R230	C-15	R321	A-12	R460	G-12	R701	A-14
C108	F-4	C209	B-3	C413	G-10	C551	E-18	C772	C-8	IC703	C-5	Q211	C-15	R135	E-3	R231	C-18	R322	A-12	R461	G-12	R702	A-14
C109	G-15	C210	C-15	C414	G-12	C553	E-18	C773	B-6	IC704	B-6	Q213	D-16	R136	F-5	R232	C-3	R323	A-13	R462	G-6	R703	B-5
C110	G-5	C211	C-3	C415	G-12	C554	E-1	C774	B-6	IC705	B-13	Q214	D-16	R137	F-14	R233	A-18	R324	A-3	R463	G-7	R704	B-4
C111	G-5	C212	C-3	C416	D-11	C555	E-2	C775	C-14	IC706	B-7	Q215	C-17	R138	F-5	R234	D-3	R325	A-2	R464	G-6	R708	B-8
C112	G-5	C213	C-16	C417	F-11	C556	E-17	C776	C-8	IC707	B-12	Q216	C-17	R139	E-3	R235	C-4	R326	A-18	R465	G-6	R709	C-14
C113	G-5	C214	C-17	C418	F-11	C557	E-2	C777	C-8	IC709	A-8	Q217	D-17	R140	F-14	R236	B-1	R328	D-6	R466	F-7	R710	C-14
C114	F-15	C215	C-1	C419	E-9	C558	E-17	C778	D-12			Q218	D-17	R141	F-14	R237	B-18	R329	D-13	R467	G-9	R713	A-8
C115	F-16	C216	A-1	C420	F-11	C561	G-1	C779	D-7	L101	G-16	Q219	E-16	R142	F-14	R239	C-16	R330	D-15	R468	G-10	R714	A-8
C116	F-15	C217	B-2	C421	F-11	C563	G-1	C780	D-7	L102	F-5	Q221	C-17	R145	E-15	R240	B-1	R331	C-14	R469	G-10	R715	A-8
C117	F-15	C218	D-16	C423	G-12	C571	C-1	C781	D-12	L103	F-5	Q222	C-18	R146	E-5	R241	D-3	R332	C-15	R471	C-11	R717	A-8
C118	F-15	C219	C-4	C424	E-11	C572	D-18	C782	C-12	L104	E-14	Q223	D-15	R147	E-5	R242	B-2	R333	C-14	R472	F-12	R719	C-11
C119	F-5	C220	C-16	C425	E-10	C573	C-1			L105	F-2	Q224	D-16	R150	E-4	R243	D-17	R334	C-15	R473	F-12	R721	C-3
C120	F-15	C221	C-15	C426	G-10	C574	D-1	CN101	G-4	L106	G-16	Q226	C-17	R152	G-17	R244	D-17	R335	C-15	R475	D-7	R722	C-8
C121	F-15	C223	C-4	C427	G-8	C575	D-1	CN102	G-18	L107	F-3	Q227	C-17	R153	G-16	R245	C-18	R336	C-15	R478	E-7	R724	C-8
C122	F-5	C224	C-3	C428	F-11	C576	D-1	CN301	F-6	L108	F-16	Q228	C-2	R154	G-2	R246	C-18	R337	D-5	R479	D-1	R725	C-6
C123	G-4	C225	C-4	C429	G-8	C577	D-1	CN302	D-10	L109	F-16	Q229	C-2	R155	G-2	R247	D-17	R339	F-13	R481	G-8	R728	A-4
C124	G-4	C226	C-15	C430	G-8	C578	C-1	CN303	D-1	L110	F-3	Q230	B-1	R156	G-3	R248	C-4	R340	C-18	R484	D-7	R729	A-14
C125	F-15	C227	C-15	C431	G-11	C602	B-3	CN304	E-3	L111	F-16	Q231	C-18	R157	G-16	R249	C-4	R341	B-18	R485	D-7	R732	B-14
C126	F-4	C228	C-4	C432	G-10	C603	B-3	CN400	G-5	L112	E-15	Q232	B-1	R158	F-3	R250	B-17	R342	F-13	R486	D-7	R733	B-14
C127	F-4	C229	C-3	C433	G-11	C604	B-4	CN401	G-6	L113	D-3	Q301	F-9	R159	F-2	R252	C-17	R343	B-18	R487	D-7	R734	B-14
C128	E-5	C230	C-3	C434	G-7	C605	B-16	CN402	G-7	L114	D-3	Q302	F-11	R160	G-3	R254	D-16	R344	B-18	R488	F-6	R735	B-14
C129	F-3	C231	C-2	C435	G-10	C606	B-3	CN403	G-2	L115	D-16	Q303	A-1	R163	G-17	R255	D-16	R400	E-12	R501	F-1	R743	A-13
C130	F-4	C232	C-2	C436	G-12	C607	B-16	CN501	E-1	L202	C-16	Q304	C-18	R164	F-16	R256	C-3	R401	E-12	R502	G-18	R744	A-13
C131	F-5	C233	D-16	C437	G-6	C608	B-16	CN601	A-3	L203	C-16	Q305	B-18	R165	F-3	R257	D-17	R402	E-7	R503	F-2	R751	C-8
C132	F-3	C234	D-4	C438	G-6	C609	A-15	CN701	A-4	L205	C-15	Q400	G-8	R167	E-3	R259	D-3	R403	E-7	R505	E-16	R756	B-11
C133	F-4	C235	D-4	C439	G-6	C610	A-15	CN702	E-18	L207	C-17	Q401	G-9	R168	E-3	R260	C-4	R404	E-7	R506	E-1	R757	B-11
C134	F-14	C236	D-4	C441	G-13	C611	A-4			L210	D-15	Q501	G-1	R169	E-16	R261	C-2	R405	E-12	R507	F-16	R758	A-8
C136	G-14	C237	C-4	C442	G-9	C612	A-4	D101	E-14	L211	D-17	Q506	G-18	R170	E-16	R262	C-2	R406	E-12	R511	E-1	R759	A-8
C138	F-3	C238	C-4	C443	G-9	C613	A-16	D102	D-3	L212	C-13	Q507	G-18	R171	E-15	R263	C-3	R407	E-7	R512	E-17	R760	B-11
C139	F-5	C240	C-17	C444	G-13	C614	A-16	D103	E-14	L213	C-16	Q570	D-17	R172	D-15	R265	D-15	R408	F-8	R513	F-2	R761	B-11
C140	F-3	C242	D-14	C445	G-13	C615	A-2	D201	C-2	L214	C-13	Q601	B-3	R174	E-2	R266	B-18	R409	F-8	R514	D-1	R775	B-8
C141	E-3	C243	C-16	C446	G-13	C616	A-17	D202	C-16	L215	C-17	Q602	A-16	R175	D-4	R267	C-4	R410	E-8	R515	E-17	R776	B-5
C142	F-14	C244	C-4	C447	G-13	C618	A-18	D203	D-16	L216	C-16	Q603	B-3	R176	D-15	R268	D-15	R411	D-10	R516	F-17	R777	B-5
C143	E-3	C245	C-16	C448	G-6	C619	A-17	D204	B-1	L301	D-15	Q703	A-13	R177	D-4	R270	C-18	R412	F-8	R517	D-18	R778	C-11
C144	F-5	C246	D-4	C449	G-6	C620	B-16	D301	A-8	L303	D-6	Q704	A-12	R178	D-4	R271	C-18	R413	D-11	R519	G-17	R779	C-11
C145	E-3	C247	D-17	C450	G-13	C621	B-3	D302	A-7	L304	D-13	Q705	A-12	R179	D-3	R272	D-17	R414	D-11	R520	E-17	R780	C-11
C146	F-14	C248	C-2	C451	F-6	C701	B-5	D303	A-6	L305	D-6	Q706	A-12	R180	D-4	R274	E-16	R417	F-7	R522	G-1	R781	C-11
C147	F-14	C249	C-2	C452	G-13	C704	B-4	D304	A-5	L400	D-8	Q750	C-8	R181	D-4	R276	E-16	R418	F-6	R526	G-1	R782	D-11
C148	F-5	C254	C-17	C453	G-13	C705	B-5	D305	A-4	L401	F-11	Q752	B-8	R182	D-3	R277	E-16	R419	F-12	R527	G-1	R783	D-12
C149	E-4	C256	E-16	C456	F-11	C706	B-15	D306	A-1	L402	E-9	Q753	B-11	R183	D-3	R279	D-15	R420	D-8	R530	G-17	R784	D-12
C150	E-4	C257	B-2	C458	G-13	C712	B-13	D307	F-11	L570	C-1	Q754	B-11	R184	D-3	R281	D-15	R421	D-9	R531	G-1		
C151	E-15	C259	C-15	C459	F-6	C714	A-5	D705	A-8	L601	A-3			R185	D-3	R282	D-4	R422	E-13	R532	G-1	S301	A-11
C152	E-15	C263	D-16	C502	G-17	C715	B-5	D706	A-4	L602	A-17	R061	C-1	R186	D-3	R283	D-16	R423	D-9	R533	G-18	S302	A-15
C155	E-16	C265	D-15	C504	G-18	C717	A-14			L706	A-11	R062	B-2	R187	D-3	R284	D-15	R424	F-8	R534	G-18	S303	A-12
C156	E-15	C266	D-16	C505	G-17	C718	A-14	FB301	B-18	L715	A-13	R063	B-2	R189	F-15	R286	C-15	R425	F-12	R537	F-18	S304	A-13
C157	E-5	C267	C-17	C506	F-1	C719	B-14	FB601	A-17	L717	G-13	R064	C-1	R190	F-15	R287	D-16	R426	F-12	R556	G-1	S305	A-14
C158	G-2	C268	C-17	C507	G-17	C722	B-14	FB701	A-13	L751	C-8	R065	B-2	R191	E-5	R289	D-16	R427	E-9	R562	E-17	S306	A-2
C159	G-17	C269	C-16	C508	G-17	C725	C-14	FB702	A-13	L752	B-11	R101	G-5	R192	E-14	R290	C-15	R428	E-9	R564	F-17	S307	A-3
C160	G-16	C270	D-17	C509	G-2	C726	C-14	FB703	A-6	L753	L-11	R102	G-5	R193	G-16	R291	E-16	R429	G-8	R570	D-17	S308	A-18
C161	F-2	C271	D-17	C510	F-17	C727	B-5	FB704	A-13	L754	L-12	R103	G-5	R201	C-16	R292	C-3	R430	F-9	R571	D-1		
C162	G-3	C274	B-1	C511	F-1	C728	B-5	FB705	B-13			R104	G-5	R202	C-16	R293	B-3	R431	E-11	R575	D-1	X400	E-11
C164	F-16	C275	B-18	C512	F-2	C729	C-5	FB706	B-13	Q101	G-5	R105	G-5	R203	C-16	R294	C-16	R434	F-10	R581	D-1	X701	A-5
C165	F-3	C276	B-1	C513	F-2	C732	C-5	FB707	B-13	Q102	G-5	R106	F-15	R204	C-17	R295	D-2	R436	D-11	R601	B-3	X702	A-7
C166	F-16	C277	C-13	C514	F-17	C734	A-5	FB708	B-13	Q103	F-16	R107	F-15	R205	B-1	R296	D-4	R437	F-9	R603	B-3	X703	D-11
C167	F-16	C278	C-3	C515	G-17	C735	A-12			Q104	F-15	R108	F-15	R206	C-15	R297	D-2	R438	F-11	R604	B-16		
C168	F-2	C279	A-18	C516	G-17	C736	A-11	IC101	F-4	Q105	F-15	R109	G-5	R207	B-1	R298	D-4	R439	F-11	R605	B-3		
C169	F-3	C280	B-1	C517	G-18	C739	A-7	IC201	C-3	Q106	F-15	R110	F-15	R208	B-1	R299	D-4	R440	F-11	R606	B-16		
C170	E-17	C302	D-15	C518	F-2	C740	A-8	IC202	D-17	Q107	F-5	R111	F-5	R210	C-4	R302	C-9	R441	E-11	R607	B-4		
C171	E-15	C303	D-6	C520	F-2	C741	A-8	IC205	B-18	Q108	F-16	R112	F-5	R211	B-3	R303	A-10	R442	E-11	R608	B-3		
C172	E-15	C304	D-4	C522	F-2	C742	A-8	IC206	A-18	Q109	F-15	R113	F-15	R212	C-15	R304	F-12	R443	G-9	R609	B-4		
C173	D-3	C305	E-14	C523	F-1	C745	C-7	IC302	D-14	Q110	F-15	R114	F-15	R213	C-4	R305	F-7	R444	G-9	R610	B-3		
C174	E-3	C307	B-18	C529	G-1	C746	B-8	IC303	D-5	Q111	F-15	R115	F-15	R214	B-1	R306	G-10	R445	G-9	R611	B-16		
C176	D-4	C309	C-1	C530	F-2	C748	B-8	IC304	F-13	Q112	F-14	R116	F-15	R215	B-2	R307	F-11	R446	G-9	R612	B-3		
C177	D-3	C400	F-8	C531	G-1	C750	B-13	IC400	E-9	Q113	E-14	R117	F-14	R216	B-1	R308	F-10	R447	F-11	R613	B-4		
C178	D-3	C401	E-8	C532	E-1	C751	B-13	IC401	D-11	Q114	E-14	R118	F-14	R218	C-2	R309	F-10	R448	F-11	R614	B-16		
C179	D-3	C402	F-9	C533	F-17	C752	B-14	IC402	E-10	Q115	E-5	R119	F-4	R219	C-16	R310	F-10	R449	F-11	R615	B-16		
C180	D-3	C403	F-9	C534	E-2	C753	B-17	IC403	G-13	Q116	G-16	R120	F-4	R220	C-14	R311	F-10	R450	F-11	R616	B-16		
C181	D-3	C404	D-8	C535	G-2	C754	C-6	IC404	G-11	Q117	G-2	R121	F-14	R221	D-3	R312	A-8	R451	G-7	R618	B-3		
C182	D-16	C405	E-9	C537	E-1	C755	B-13	IC405	D-8	Q118	F-3	R122	F-14	R222	B-3	R313	A-7	R452	G-12	R619	B-16		

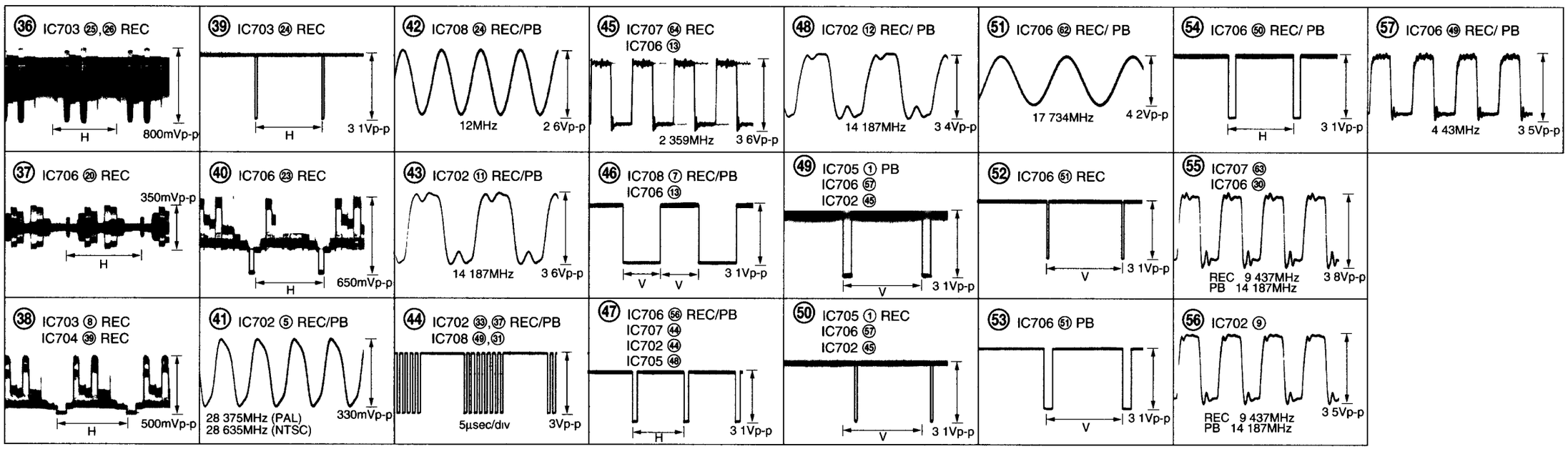
CCD-TR86/TR96/TR506/TR506PK/TR507/TR916(NTSC)
CCD-TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E(PAL)

⟨Mount table for each function⟩

Ref.No	PAL/760 G4/CCD-S	PAL/760 G4/CCD-M	PAL/760 LOGOS/CCD-S	PAL/760 LOGOS/CCD-M	PAL/760 G4/CCD-SUP	PAL/510/EZ G4/CCD-S	PAL/510/EZ G4/CCD-M	PAL/510/EZ LOGOS/CCD-S	PAL/510/EZ LOGOS/CCD-M	PAL/510/EZ G4/CCD-SUP	PAL/510 G4/CCD-S	PAL/510 G4/CCD-M	PAL/510 LOGOS/CCD-S	PAL/510 LOGOS/CCD-M	PAL/510 G4/CCD-SUP	NTSC/760 G4/CCD-S	NTSC/760 G4/CCD-M	NTSC/760 LOGOS/CCD-S	NTSC/760 LOGOS/CCD-M	NTSC/760 G4/CCD-SUP	NTSC/510/EZ G4/CCD-S	NTSC/510/EZ G4/CCD-M	NTSC/510/EZ LOGOS/CCD-S	NTSC/510/EZ LOGOS/CCD-M	NTSC/510/EZ G4/CCD-SUP	NTSC/510 G4/CCD-S	NTSC/510 G4/CCD-M	NTSC/510 LOGOS/CCD-S	NTSC/510 LOGOS/CCD-M	NTSC/510 G4/CCD-SUP
C739	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	33p	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C740	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	470p	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C741	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	1 5u	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C742	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	0 1u	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
C748	XX	XX	XX	XX	XX	0 1u	0 1u	0 1u	0 1u	0 1u	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	0 1u	0 1u	0 1u	0 1u	0 1u	XX	XX	XX	XX	XX
C754	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p	120p
C755	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p	22p
C776	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u
C777	0 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0 1u	0. 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u	0. 1u	0 1u	560	560	0 1u	0 1u	0 1u	560	560	0 1u
C778	0 1u	0 1u	0 1u	0 1u	0 1u	0 01u	0 01u	0 01u	0 01u	0 01u	XX	XX	XX	XX	XX	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0. 01u	0 01u	0 01u	XX	XX	XX	XX
C779	10u	10u	10u	10u	10u	10u	10u	10u	10u	10u	XX	XX	XX	XX	XX	10u	10u	10u	10u	10u	10u	10u	10u	10u	10u	10u	XX	XX	XX	XX
C780	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	XX	XX	XX	XX	XX	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	XX	XX	XX	XX
C781	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	XX	XX	XX	XX	XX	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	0 01u	XX	XX	XX	XX
CN702	6P	6P	6P	6P	6P	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	6P	6P	6P	6P	6P	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
D702	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX	MA111-TX	XX	MA111-TX	XX	XX
D705	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	1T363-01-T	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
FB702	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	XX	–	XX	XX
IC706	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-	CXD2180AR-	CXD8562AR-	CXD8562AR-	CXD2180AR-
IC707	HG51D267FG	HG51D267FG	HG51D267FG	HG51D267FG	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	XX	XX	XX	XX	XX	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	CXD2152ARE	XX	XX	XX	XX
IC708	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	XX	XX	XX	XX	XX	XX	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0	CXP81120-0
IC709	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	TA75S558F(	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
L752	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH
L753	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH	47uH
L754	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	XX	XX	XX	XX	XX	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	10uH	XX	XX	XX	XX
Q753	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL
Q754	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL	2SC4909-TL
R701	100	100	100	100	100	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	100	100	100	100	100	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R702	XX	XX	XX	XX	XX	100	100	100	100	100	100	100	100	100	100	XX	XX	XX	XX	XX	100	100	100	100	100	100	100	100	100	100
R705	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX	100k	XX	100k	XX	XX	XX	XX	100k	XX	XX	100k	XX	XX	100k	XX	XX
R713	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R714	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	1M	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R715	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R717	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R719	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R721	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R722	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200	2200	2200	3300	3300	2200
R724	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120	120	120	560	560	120
R743	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	0	XX	0	XX	XX	0	XX	0
R758	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	10k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R759	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	18k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R760	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R761	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
R778	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R779	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	39k	39k	39k	39k	39k	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
R780	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R781	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX	68k	68k	68k	68k	68k	0	0	0	0	0	XX	XX	XX	XX	XX
R782	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
R783	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	XX	XX	XX	XX	XX	100k	100k	100k	100k	100k	100k	100k	100k	100k	100k	XX	XX	XX	XX	XX
R784	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	XX	XX	XX	XX	XX
X701	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 375MHz	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M	28 636363M
X702	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	17 734475M	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Note
510 : STEADY SHOT-NO
760 · STEADY SHOT-YES
CCD-S CCD of S Type
CCD-M CCD of M Type
CCD-SUP : CCD of Special S Type
LOGOS · CXD2180 (IC706)
G4 · CXD8562 (IC706)
EZ . DIGITAL ZOOM

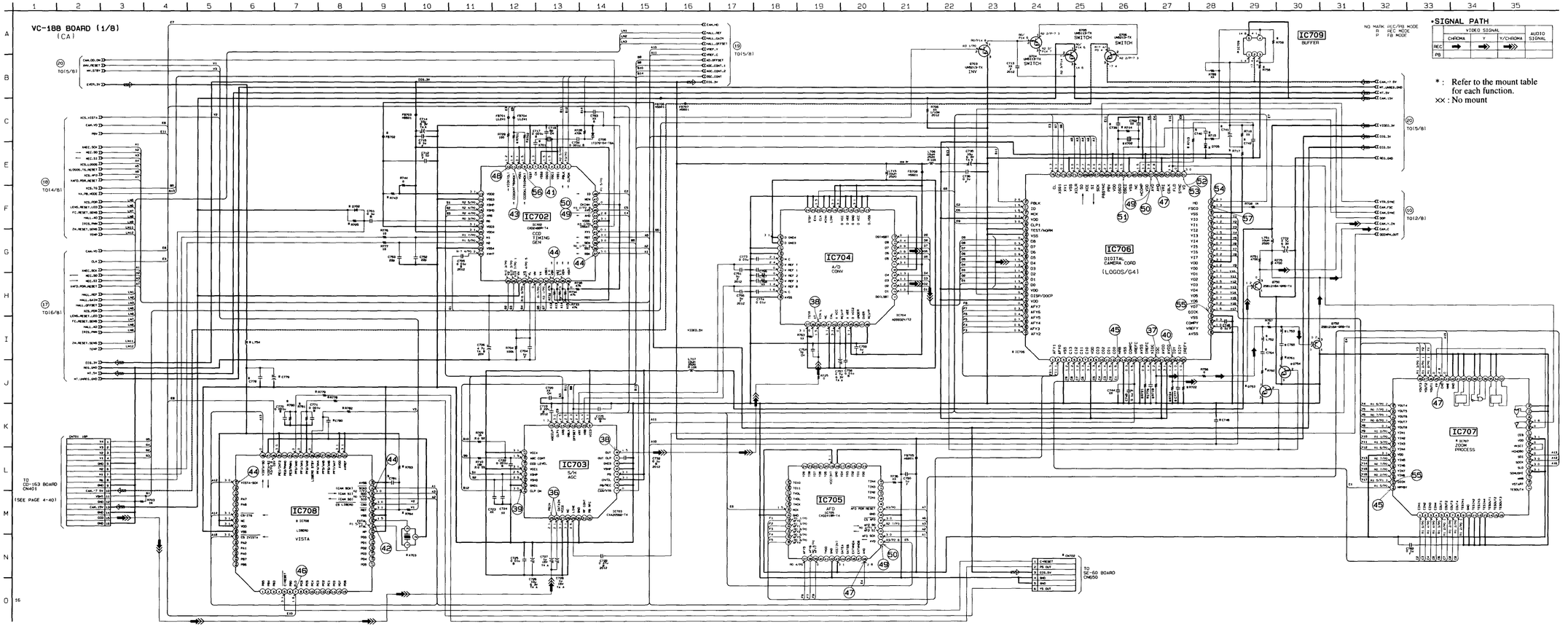
VC-188 BOARD (1/8)



DIFFERENCES
VC-188 (1/8)

VC-188 (CAMERA 1) SCHEMATIC DIAGRAM • See page 4-5 for VC-188 BOARD printed wiring board.

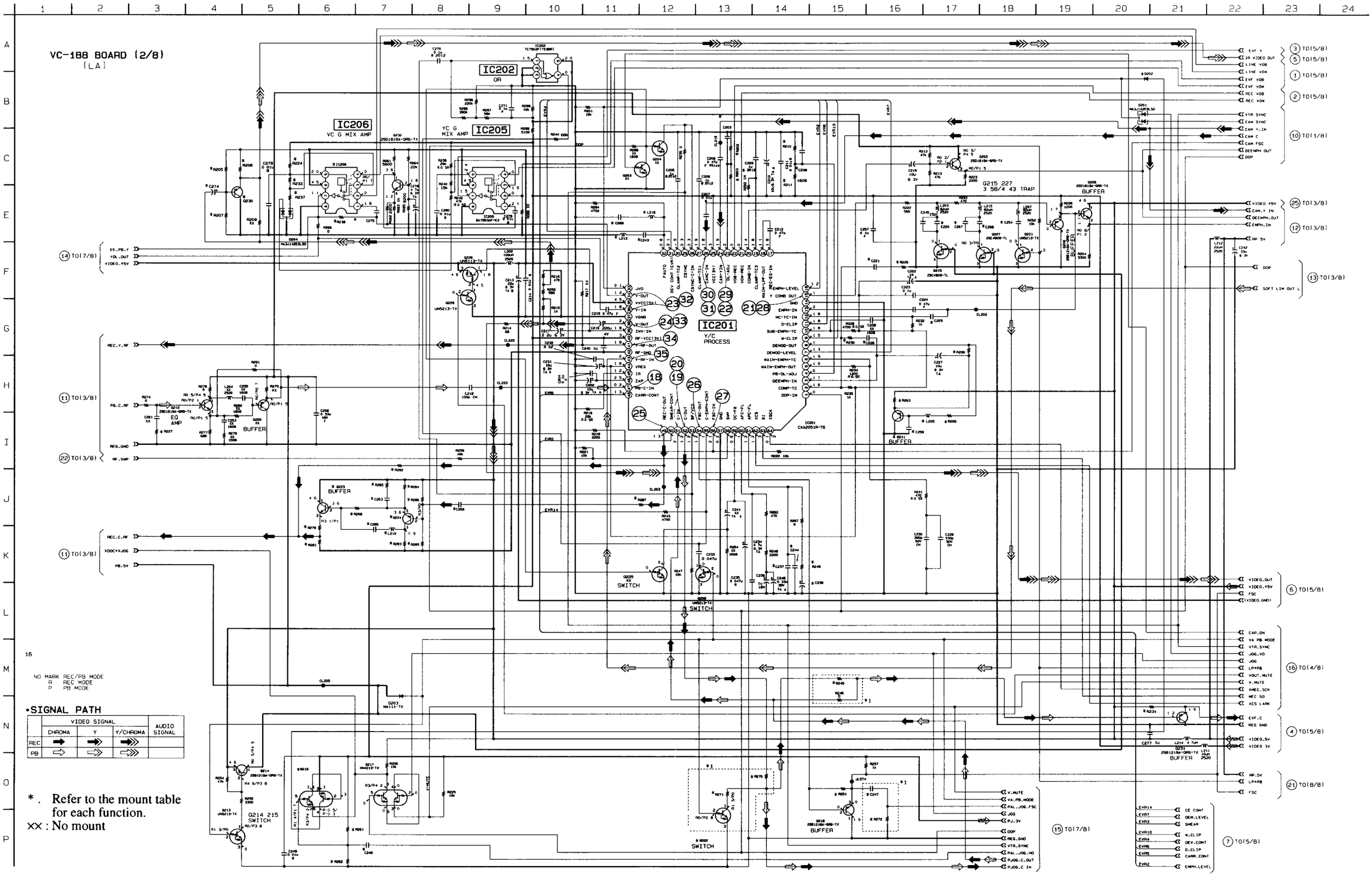
— Ref No. VC-188 Board; 1,000 Series —



VC-188 (CAMERA 2) SCHEMATIC DIAGRAM

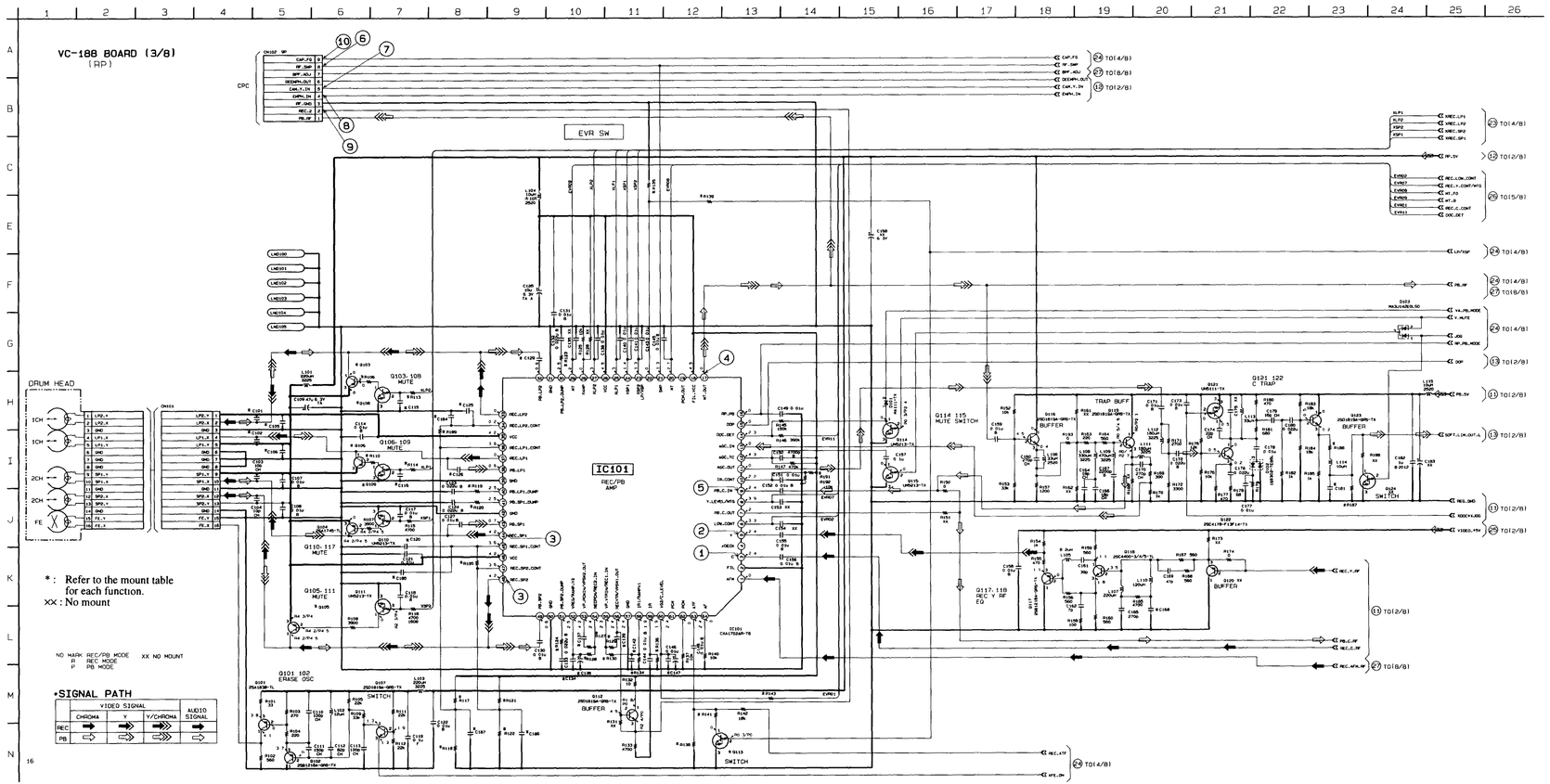
— Ref. No VC-188 Board; 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.



VC-188 (VIDEO) SCHEMATIC DIAGRAM
— Ref. No. VC-188 Board: 1,000 *Series* —

• See page 4-5 for VC-188 BOARD printed wirng board.

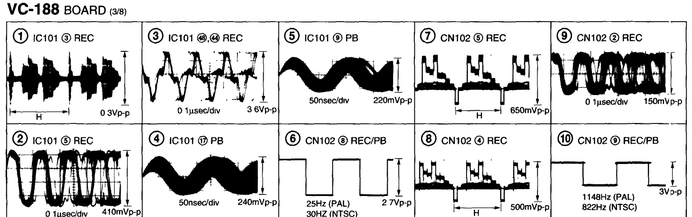


⟨Mount table for each function⟩

Ref.No	NTSC/ST	NTSC/MONO	PAL/ST	PAL/MONO
C101	10p	10p	XX	XX
C102	10p	10p	XX	XX
C105	0.01u	0.01u	XX	XX
C106	0.01u	0.01u	XX	XX
C115	0.01u	0.01u	XX	XX
C116	0.01u	0.01u	XX	XX
C120	0.01u	0.01u	0.01u	0.01u
C125	0.01u	0.01u	XX	XX
C126	0.01u	0.01u	XX	XX
C129	0.01u	0.01u	XX	XX
C134	0.01u	0.01u	0.01u	0.01u
C136	10u	10u	10u	10u
C137	XX	XX	XX	XX
C139	330p	330p	330p	330p
C142	0.01u	0.01u	0.01u	0.01u
C147	10u	10u	10u	10u
C168	82p	100p	82p	100p
C181	39p	39p	47p	47p
C184	XX	XX	XX	XX
C185	XX	XX	XX	XX
C186	XX	XX	XX	XX
C187	XX	XX	XX	XX
Q103	2SA1745-TL	2SA1745-TL	XX	XX
Q105	2SA1745-TL	2SA1745-TL	XX	XX
Q108	UN5213-TX	UN5213-TX	XX	XX
Q109	UN5213-TX	UN5213-TX	XX	XX
Q113	XX	XX	UN5213-TX	UN5213-TX
R105	3900	3900	XX	XX
R110	3900	3900	XX	XX
R113	4700	4700	XX	XX
R114	4700	4700	XX	XX
R117	6800	6800	6800	6800
R118	27k	27k	27k	27k
R119	560	560	560	560
R120	560	560	560	560
R121	6800	6800	6800	6800
R122	27k	27k	27k	27k
R123	560	560	560	560
R124	560	560	560	560
R127	XX	XX	XX	XX
R128	XX	XX	XX	XX
R129	0	0	0	0
R130	XX	XX	XX	XX
R134	15k	15k	15k	15k
R135	XX	XX	1k	1k
R136	18k	18k	18k	18k
R139	0	0	XX	XX
R141	XX	XX	8200	8200
R143	XX	XX	XX	XX
R186	100	100	39	39
R187	1500	1500	1800	1800
R189	0	0	XX	XX
R190	0	0	0	0
R191	10k	10k	10k	10k

Note
ST : STEREO

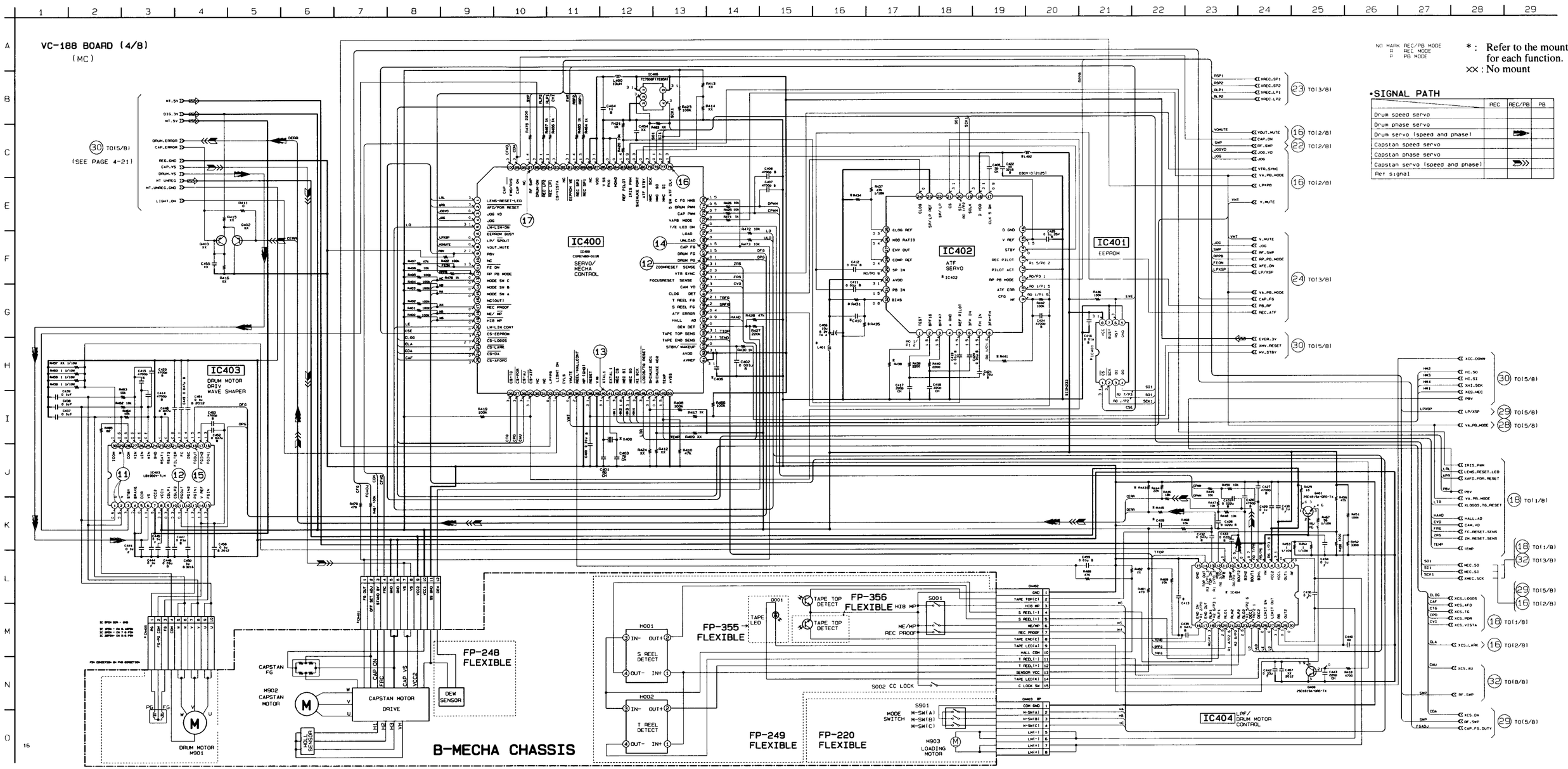
VC-188 BOARD (3/8)



VC-188 (MODE CONTROL), FP-249 (MODE SENSOR) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

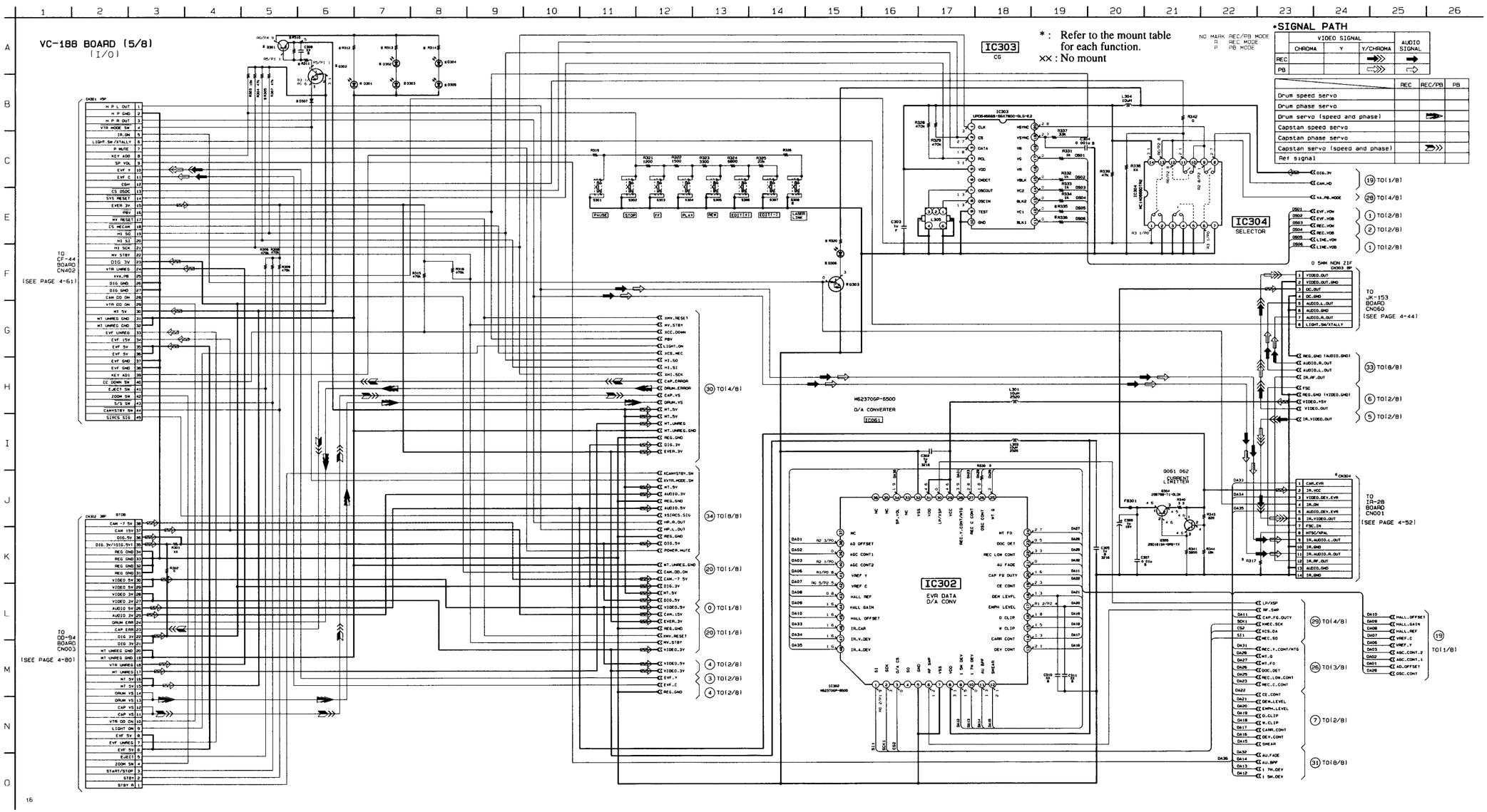
• See page 4-5 for VC-188 BOARD printed wiring board

— Ref. No. VC-188 Board; 1,000 Series, FP-249 Board; 5,000 Series —



VC-188 (IN/OUT) SCHEMATIC DIAGRAM
— Ref No VC-188 Board, 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

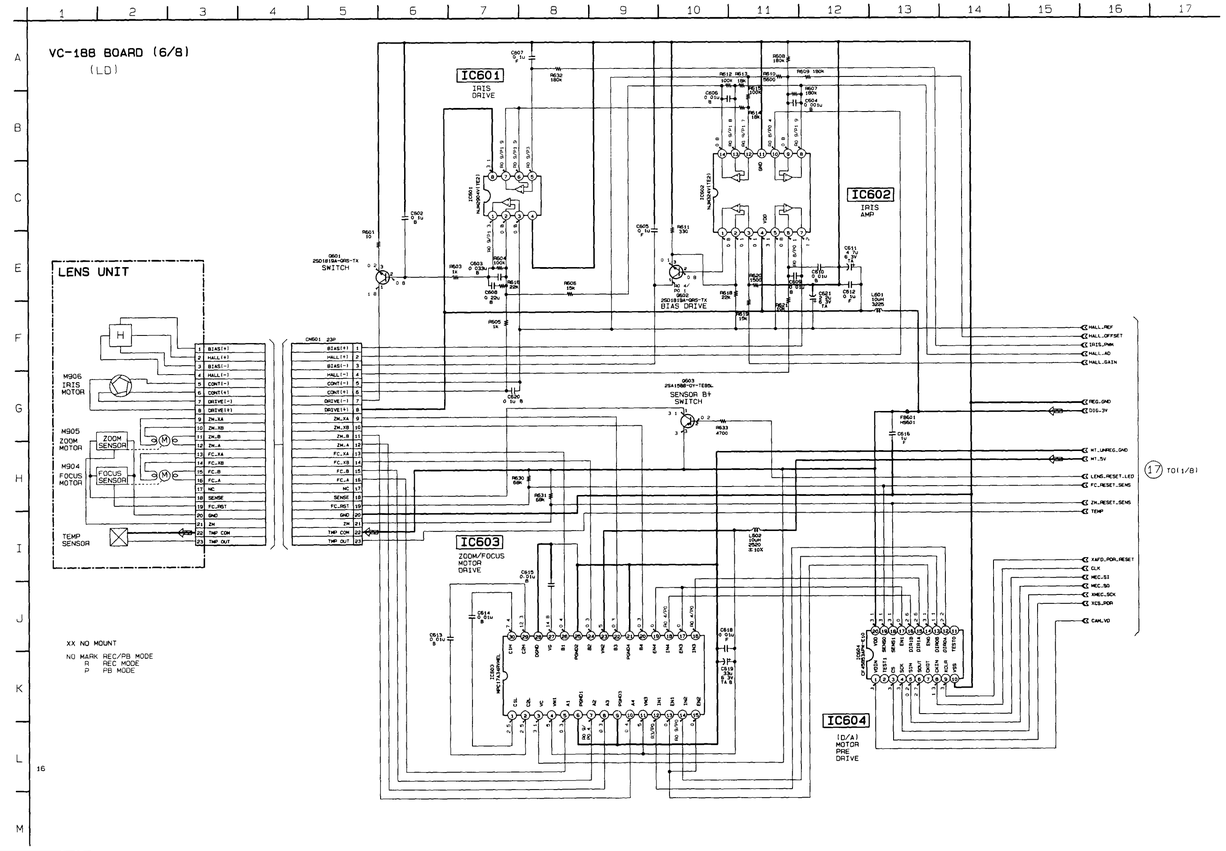


⟨Mount table for each function⟩

Ref_No	NO IR NTSC/PAL	IR NTSC	IR PAL
CN304	XX	14P	14P
D301	TLYU1002	TLYU1002	TLYU1002
D302	TLYU1002	TLYU1002	TLYU1002
D303	TLYU1002	TLYU1002	TLYU1002
D304	TLYU1002	TLYU1002	TLYU1002
D305	TLYU1002	TLYU1002	TLYU1002
D306	XX	TLSU1002	TLSU1002
D307	MA111-TX	MA111-TX	MA111-TX
Q301	2SB1295-UL	2SB1295-UL	2SB1295-UL
Q302	UN5213-TX	UN5213-TX	UN5213-TX
Q303	XX	UN5213-TX	UN5213-TX
R310	47k	47k	47k
R311	470	470	470
R312	150	150	150
R313	47	47	47
R314	47	47	47
R317	XX	XX	0
R320	XX	150	150
R335	1k	1k	1k
R336	1k	1k	1k
S308	XX	XX	XX

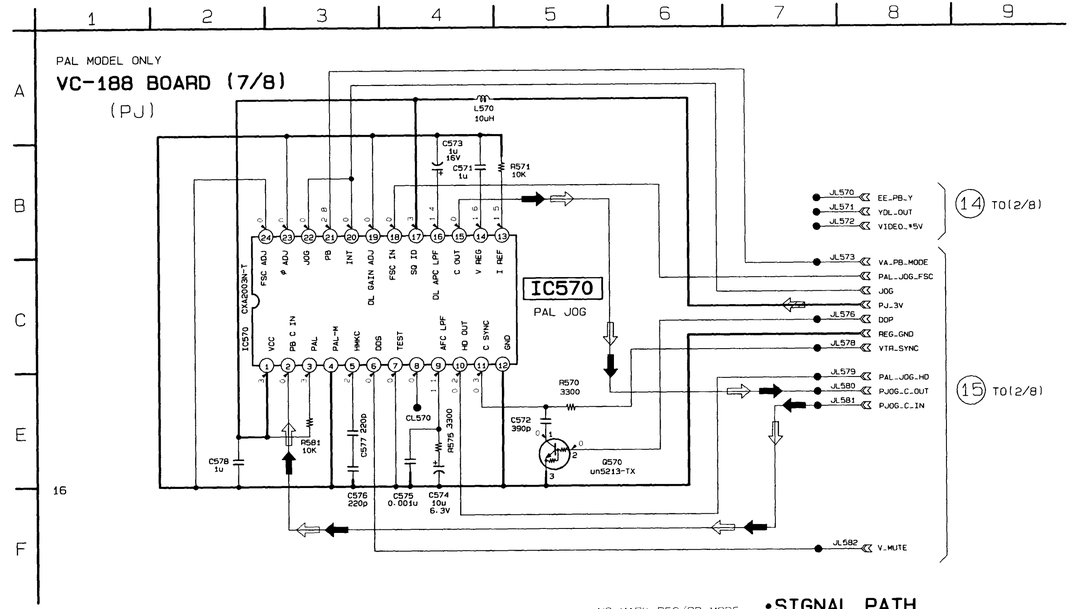
VC-188 (LD) SCHEMATIC DIAGRAM
— Ref No. VC-188 Board; 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.



VC-188 (PJ) SCHEMATIC DIAGRAM
— Ref. No. VC-188 Board, 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

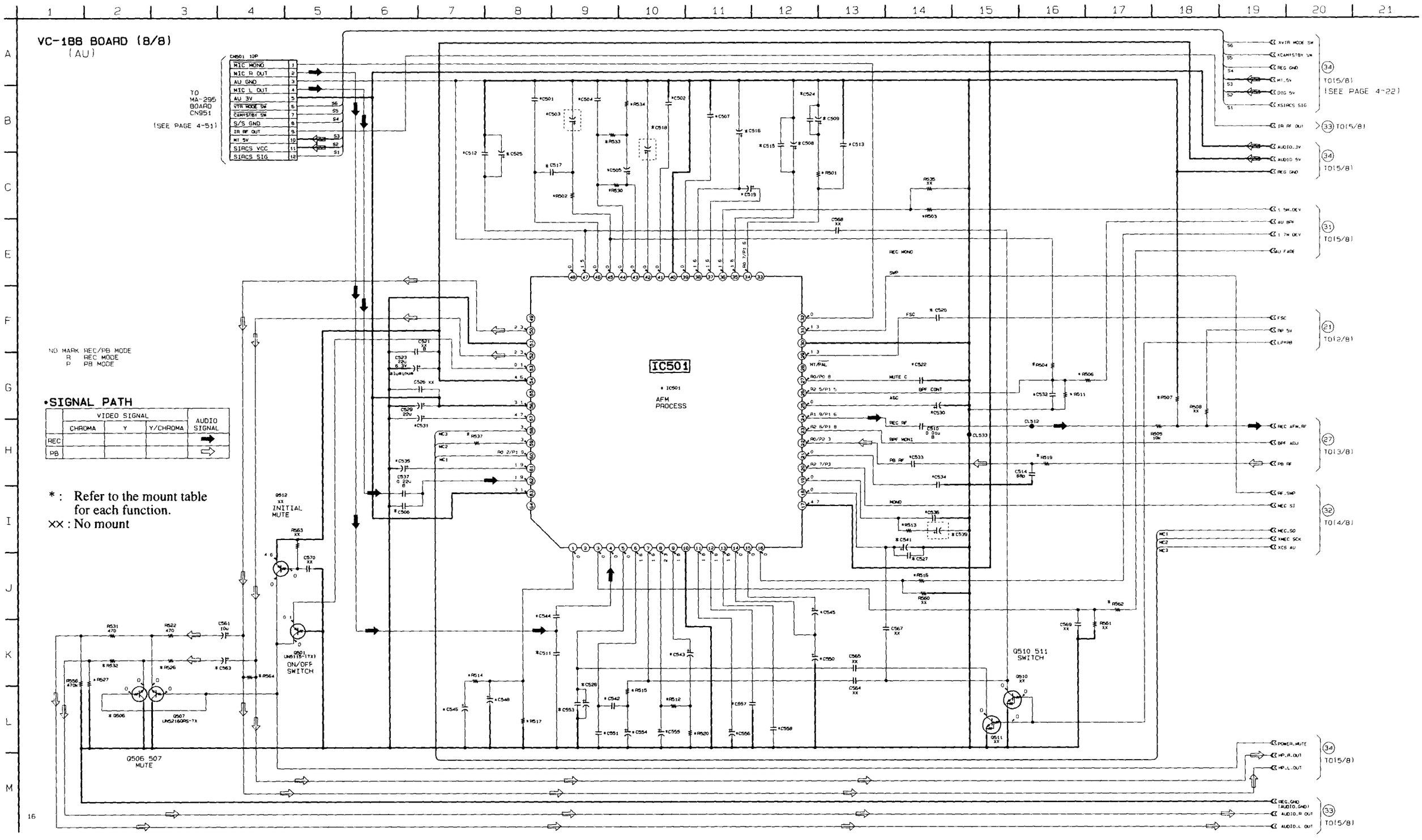


•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡			
PB	⇨			

VC-188 (AUDIO) SCHEMATIC DIAGRAM
— Ref No. VC-188 Board: 1,000 Series —

• See page 4-5 for VC-188 BOARD printed wiring board.

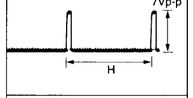


CD-163 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM
— Ref No CD-163 Board, 2,000 Series —

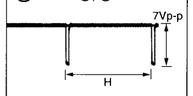
There are few cases that the part printed on this diagram isn't mounted in this model.

CD-163 BOARD

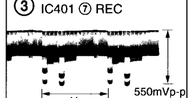
① IC401 ①, ② REC



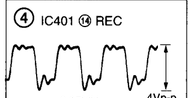
② IC401 ③, ④ REC

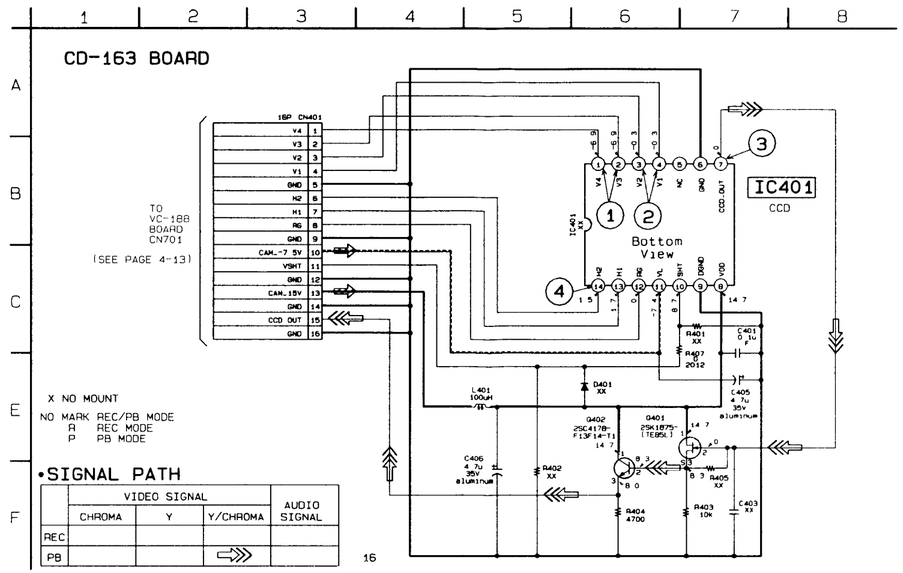


③ IC401 ⑦ REC



④ IC401 ⑭ REC

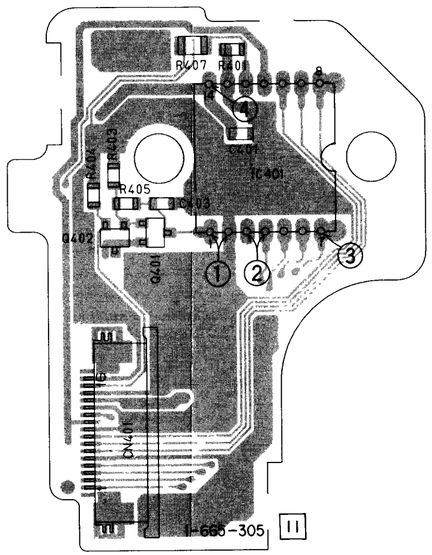




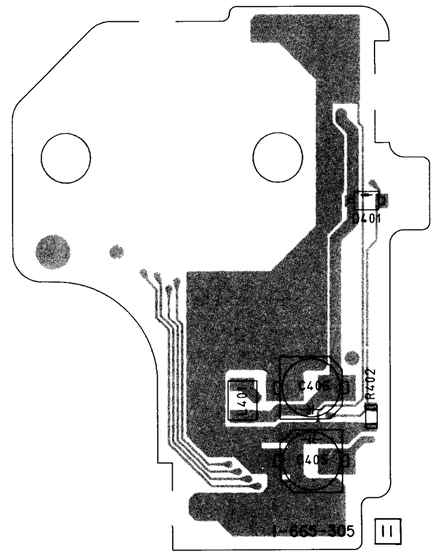
Precautions Upon Replacing CCD Imager

- The CD-163 board mounted as a repair part is not equipped with a CCD imager
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one
- If the CCD imager has been replaced, carry out all the adjustments for the camera section
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

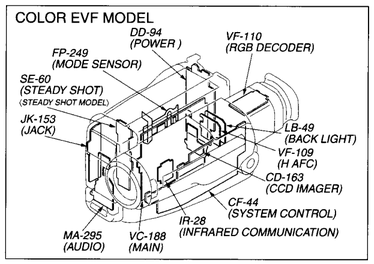
CD-163 BOARD (SIDE A)



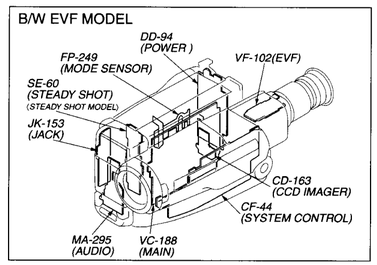
CD-163 BOARD (SIDE B)



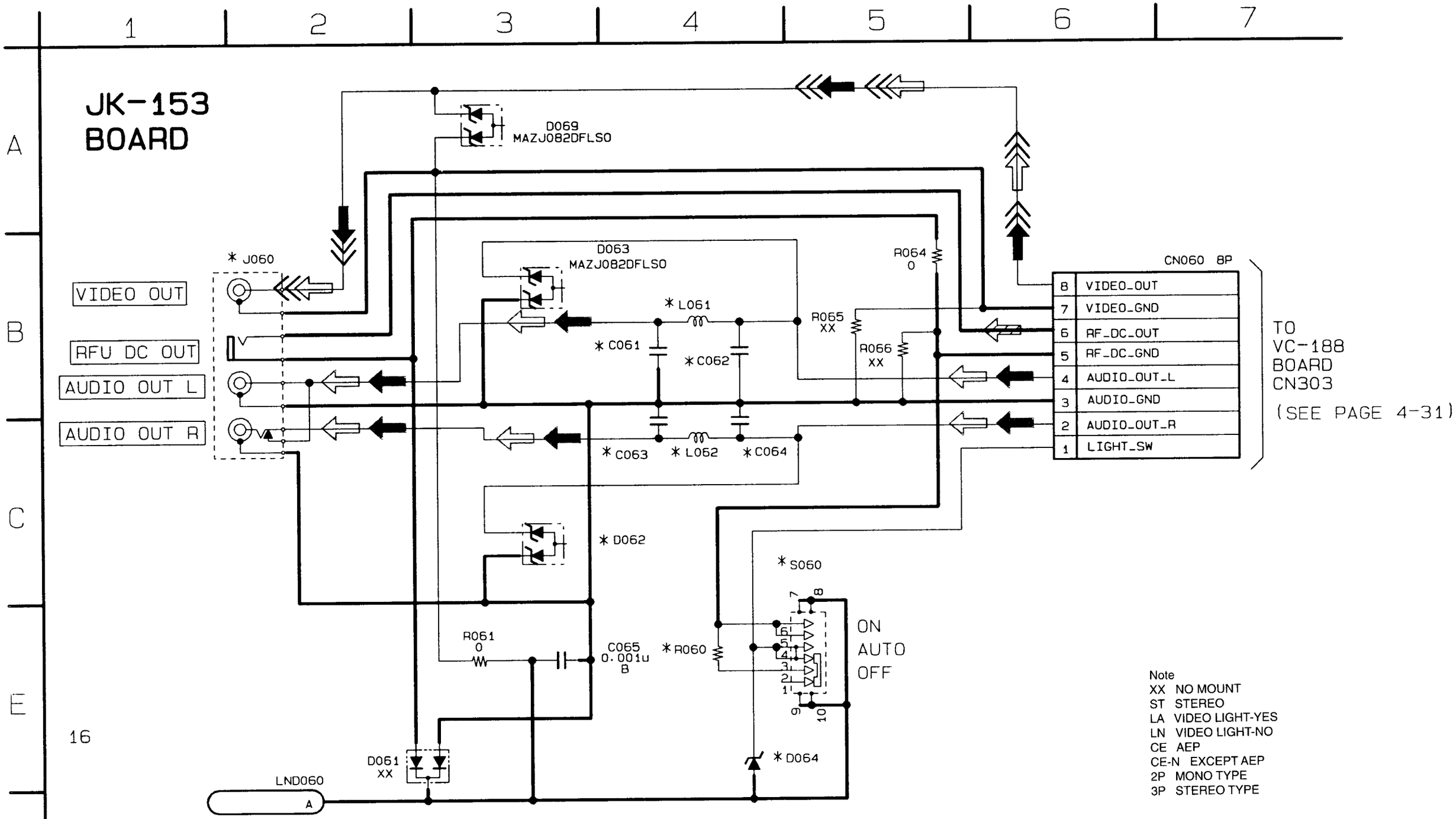
COLOR EVF MODEL



B/W EVF MODEL



There are few cases that the part printed on this diagram isn't mounted in this model



Note
XX NO MOUNT
ST STEREO
LA VIDEO LIGHT-YES
LN VIDEO LIGHT-NO
CE AEP
CE-N EXCEPT AEP
2P MONO TYPE
3P STEREO TYPE

•SIGNAL PATH

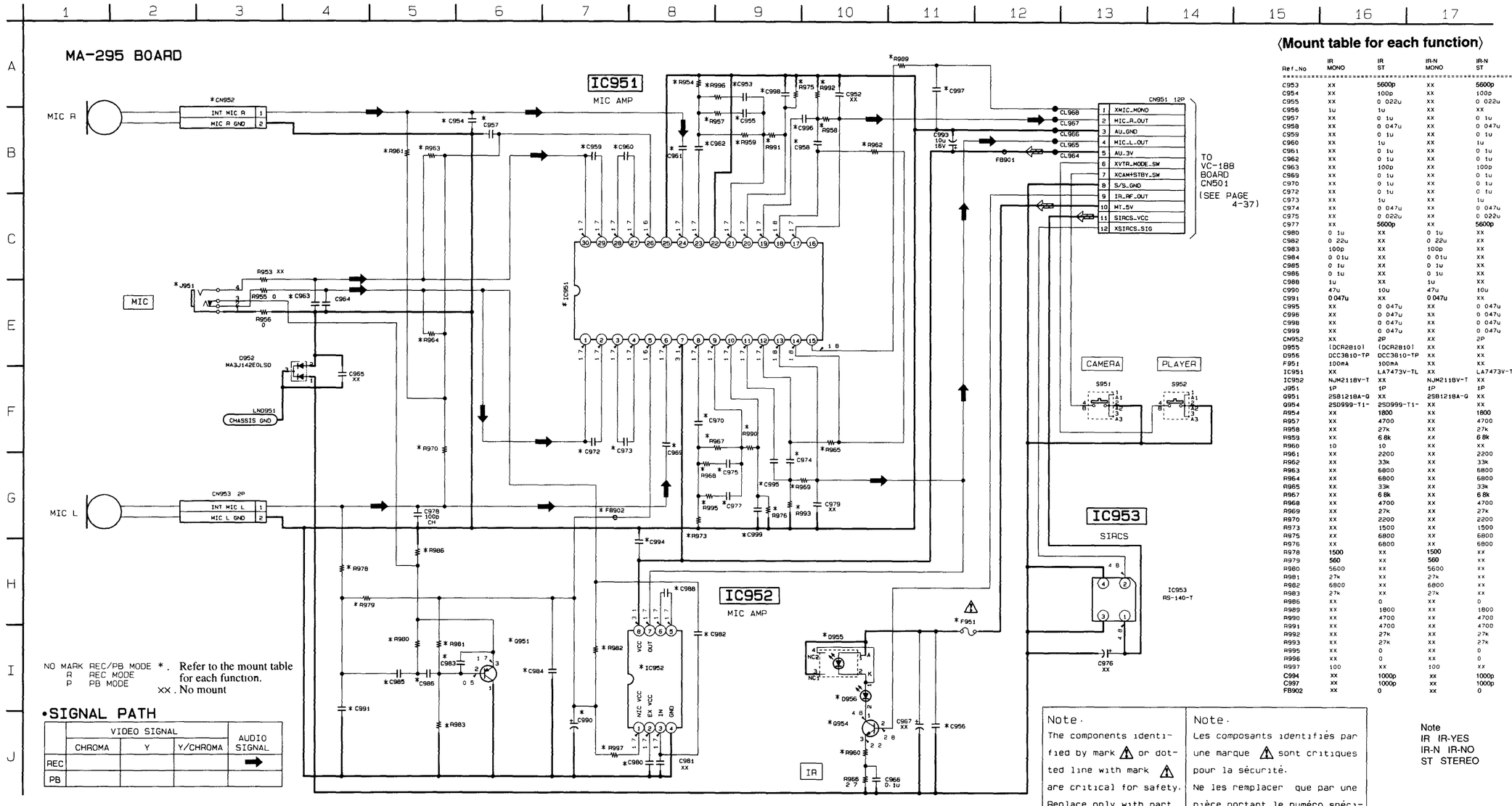
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨

⟨Mount table for each function⟩

Ref_No	CE ST/L-N	CE ST/L-A	CE MONO/L-N	CE MONO/L-A	CE-N ST/L-N	CE-N ST/L-A	CE-N MONO/L-N	CE-N MONO/L-A
C061	0.001u	0.001u	0.001u	0.001u	XX	XX	XX	XX
C062	0.001u	0.001u	0.001u	0.001u	XX	XX	XX	XX
C063	0.001u	0.001u	XX	XX	XX	XX	XX	XX
C064	0.001u	0.001u	XX	XX	XX	XX	XX	XX
D062	MAZJ082DFL	MAZJ082DFL	XX	XX	MAZJ082DFL	MAZJ082DFL	XX	XX
D064	XX	MA8082-TX	XX	MA8082-TX	XX	MA8082-TX	XX	MA8082-TX
L061	100uH	100uH	100uH	100uH	0	0	0	0
L062	100uH	100uH	XX	XX	0	0	XX	XX
R060	XX	1200	XX	1200	XX	1200	XX	1200
S060	XX	XX	XX	XX	XX	XX	XX	XX
J060	3P	3P	2P	2P	3P	3P	2P	2P

MA-295 (AUDIO) SCHEMATIC DIAGRAM

— Ref No. MA-295 Board; 2,000 Series —



•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				

⟨Mount table for each function⟩

Ref.No	IR MONO	IR ST	IR-N MONO	IR-N ST
C953	XX	5600p	XX	5600p
C954	XX	100p	XX	100p
C955	XX	0.022u	XX	0.022u
C956	1u	1u	XX	XX
C957	XX	0.1u	XX	0.1u
C958	XX	0.047u	XX	0.047u
C959	XX	0.1u	XX	0.1u
C960	XX	1u	XX	1u
C961	XX	0.1u	XX	0.1u
C962	XX	0.1u	XX	0.1u
C963	XX	100p	XX	100p
C969	XX	0.1u	XX	0.1u
C970	XX	0.1u	XX	0.1u
C972	XX	0.1u	XX	0.1u
C973	XX	1u	XX	1u
C974	XX	0.047u	XX	0.047u
C975	XX	0.022u	XX	0.022u
C977	XX	5600p	XX	5600p
C980	0.1u	XX	0.1u	XX
C982	0.22u	XX	0.22u	XX
C983	100p	XX	100p	XX
C984	0.01u	XX	0.01u	XX
C985	0.1u	XX	0.1u	XX
C986	0.1u	XX	0.1u	XX
C988	1u	XX	1u	XX
C990	47u	10u	47u	10u
C991	0.047u	XX	0.047u	XX
C995	XX	0.047u	XX	0.047u
C996	XX	0.047u	XX	0.047u
C998	XX	0.047u	XX	0.047u
C999	XX	0.047u	XX	0.047u
CN952	XX	2P	XX	2P
D955	(DCR2810)	(DCR2810)	XX	XX
D956	DCC3810-TP	DCC3810-TP	XX	XX
F951	100mA	100mA	XX	XX
IC951	XX	LA7473V-TL	XX	LA7473V-TL
IC952	NJM2118V-T	XX	NJM2118V-T	XX
J951	1P	1P	1P	1P
Q951	2SB1218A-Q	XX	2SB1218A-Q	XX
Q954	2SD999-T1-	2SD999-T1-	XX	XX
R954	XX	1800	XX	1800
R957	XX	4700	XX	4700
R958	XX	27k	XX	27k
R959	XX	6.8k	XX	6.8k
R960	10	10	XX	XX
R961	XX	2200	XX	2200
R962	XX	33k	XX	33k
R963	XX	6800	XX	6800
R964	XX	6800	XX	6800
R965	XX	33k	XX	33k
R967	XX	6.8k	XX	6.8k
R968	XX	4700	XX	4700
R969	XX	27k	XX	27k
R970	XX	2200	XX	2200
R973	XX	1500	XX	1500
R975	XX	6800	XX	6800
R976	XX	6800	XX	6800
R978	1500	XX	1500	XX
R979	560	XX	560	XX
R980	5600	XX	5600	XX
R981	27k	XX	27k	XX
R982	6800	XX	6800	XX
R983	27k	XX	27k	XX
R986	XX	0	XX	0
R989	XX	1800	XX	1800
R990	XX	4700	XX	4700
R991	XX	4700	XX	4700
R992	XX	27k	XX	27k
R993	XX	27k	XX	27k
R995	XX	0	XX	0
R996	XX	0	XX	0
R997	100	XX	100	XX
C994	XX	1000p	XX	1000p
C997	XX	1000p	XX	1000p
FB902	XX	0	XX	0

Note
IR IR-YES
IR-N IR-NO
ST STEREO

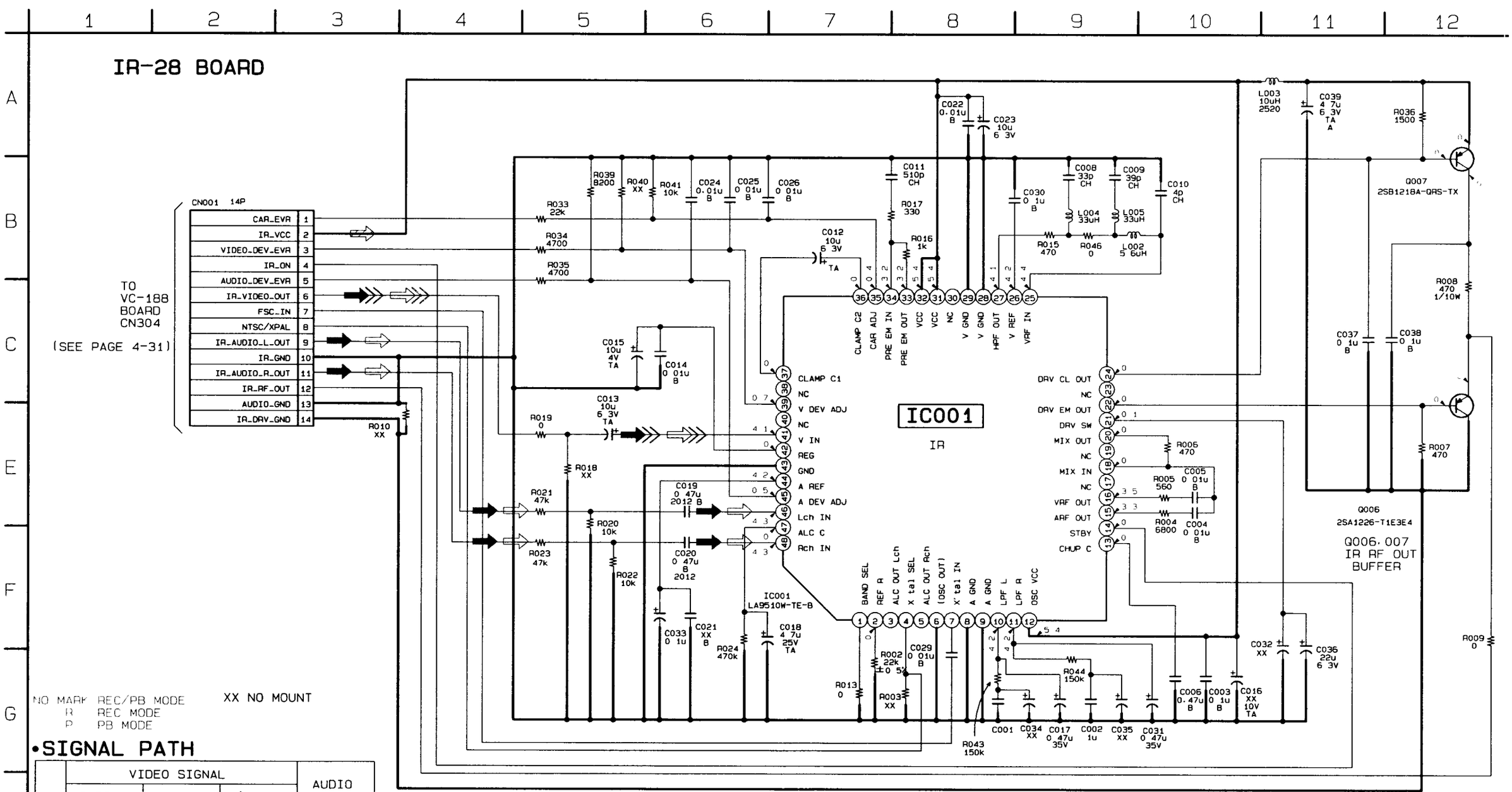
Note.
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié

IR MODEL

IR-28 (INFRARED COMMUNICATION) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM
— Ref No IR-28 Board, 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.



NO MARK REC/PB MODE
R REC MODE
P PB MODE

XX NO MOUNT

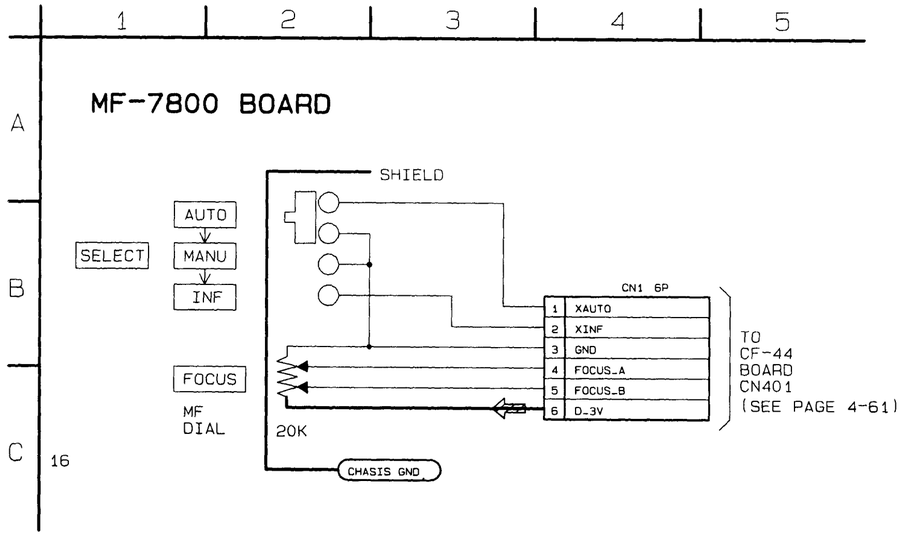
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨

16

MF-7800 (FOCUS) SCHEMATIC DIAGRAM

• Replaced are Blocks, so that there PRINTED WIRING BOARD are omitted.



• This dfference sheet shown the difference of the CF-44 board See page 4-61

⟨Mount table for each function⟩

Ref_No	VLIGHT-N SS-N/W-N/BW	VLIGHT-N SS/W-N/BW	VLIGHT-N SS/W/BW	VLIGHT-N SS-N/W/BW	VLIGHT-N S-N/W-N/COL	VLIGHT-N S/W-N/COL	VLIGHT-N S/W/COL	VLIGHT-N S-N/W COL	VLIGHT-N FULL	VLIGHT SS-N/W-N/BW	VLIGHT SS/W-N/BW	VLIGHT SS/W/BW	VLIGHT SS-N/W/BW	VLIGHT S-N/W-N/COL	VLIGHT S/W-N/COL	VLIGHT S/W/COL	VLIGHT S-N/W/COL	VLIGHT FULL
C464	0.01u	XX	0.01u	XX	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u	0.01u
CN403	5P	5P	5P	5P	XX	XX	XX	XX	5P	5P	5P	5P	5P	XX	XX	XX	XX	5P
CN404	XX	XX	XX	XX	16P	16P	16P	16P	16P	XX	XX	XX	XX	16P	16P	16P	16P	16P
D411	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	MA8082-TX	XX	MA8082-TX	MA8082-TX	XX	XX	MA8082-TX	MA8082-TX	XX	MA8082-TX
D412	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	MA111-TX
Q410	XX	XX	XX	XX	XX	XX	XX	XX	XX	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q	2SB1218A-Q
Q413	XX	XX	XX	XX	XX	XX	XX	XX	XX	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q	2SD1819A-Q
R419	XX	XX	XX	XX	XX	XX	XX	XX	XX	220k	220k	220k	220k	220k	220k	220k	220k	200k
R420	XX	XX	XX	XX	XX	XX	XX	XX	XX	10k	10k	10k	10k	10k	10k	10k	10k	10k
R423	XX	XX	XX	XX	XX	XX	XX	XX	XX	100k	100k	100k	100k	100k	100k	100k	100k	100k
R425	XX	XX	3300	3300	XX	XX	3300	3300	3300	XX	XX	3300	3300	XX	XX	3300	3300	3300
R464	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300
R530	XX	XX	XX	XX	1k	1k	1k	1k	1k	XX	XX	XX	XX	1k	1k	1k	1k	1k
R535	27k	27k	27k	27k	XX	XX	XX	XX	27k	27k	27k	27k	27k	XX	XX	XX	XX	27k
R536	33k	33k	33k	33k	XX	XX	XX	XX	33k	33k	33k	33k	33k	XX	XX	XX	XX	33k
S403	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
S404	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

Note
V LIGHT VIDEO LIGHT-YES
V LIGHT-N VIDEO LIGHT-NO
SS, S STEADY SHOT-YES
SS-N, S-N : STEADY SHOT-NO
W WIDE-YES
W-N WIDE-NO
BW : B/W EVF
COL COLOR EVF

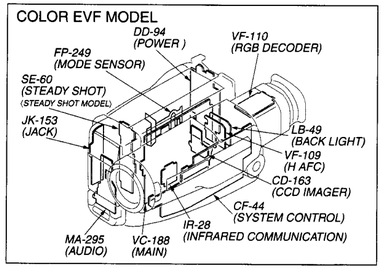
CF-44 (SYSTEM CONTROL) PRINTED WIRING BOARD

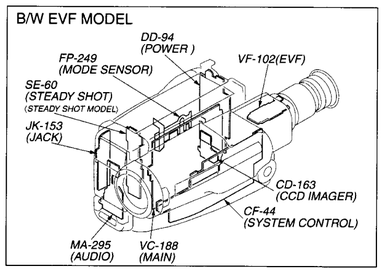
— Ref. No. CF-44 Board; 2,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

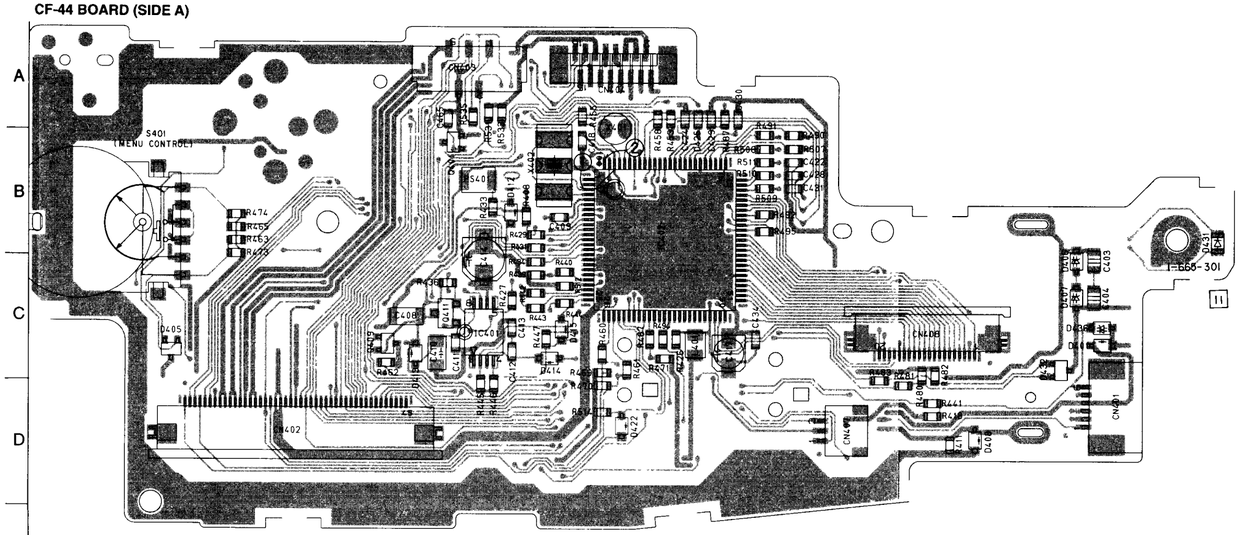
CF-44 BOARD

BH401	G-9	D419	G-2	R437	I-3	R492	B-6
BZ401	I-3	D420	F-4	R438	I-4	R493	H-6
		D422	D-5	R439	C-5	R494	C-6
C403	B-9	D425	I-1	R440	C-5	R495	B-6
C404	C-9	D426	I-1	R441	D-8	R496	H-6
C406	F-3	D430	I-2	R442	C-5	R500	G-4
C407	G-3	D431	B-10	R443	C-5	R501	F-2
C408	C-3	D432	C-9	R444	C-5	R502	G-3
C409	B-5	D437	I-5	R445	D-4	R503	G-3
C411	C-4	D438	I-5	R446	D-4	R504	G-3
C412	C-4			R447	C-5	R505	G-2
C413	C-4	IC401	C-4	R448	G-2	R506	H-2
C414	C-4	IC402	B-5	R449	G-1	R507	B-7
C415	H-5	IC403	H-2	R450	I-6	R508	B-6
C416	H-5			R451	I-6	R509	B-6
C417	C-6	J401	I-1	R452	H-5	R510	B-6
C418	B-5			R453	A-6	R511	B-6
C419	H-5	L401	C-6	R454	H-5	R514	D-5
C421	I-6	L402	F-2	R455	A-5	R526	I-1
C422	B-7			R456	I-6	R527	I-1
C423	H-5	PS401	B-4	R457	H-7	R530	I-5
C424	A-6			R458	A-5	R534	H-4
C425	A-6	Q401	B-4	R459	I-6	R535	A-4
C426	G-6	Q409	C-3	R460	C-5	R536	I-4
C427	G-6	Q410	H-3	R461	C-5	S401	B-1
C428	B-7	Q411	C-4	R462	C-3	S403	G-6
C429	A-6	Q412	F-7	R463	B-2	S404	F-4
C430	A-6	Q413	G-3	R464	F-3	S405	I-3
C431	B-7			R465	B-2	S406	H-4
C432	H-3	R401	F-7	R467	C-5	S408	F-3
C433	H-2	R402	G-7	R468	G-2	S409	I-7
C434	C-6	R408	B-4	R469	C-5	S410	H-6
C435	G-2	R409	F-7	R470	D-5	S411	H-5
C437	G-2	R410	G-7	R471	C-6	S412	G-3
C464	H-5	R411	D-8	R473	B-2	S413	G-4
		R414	G-6	R474	B-2	S414	F-2
CN401	D-9	R418	D-8	R475	H-6	S415	G-5
CN402	D-3	R419	H-3	R476	H-6	S416	H-1
CN403	A-4	R420	G-3	R477	I-6	X401	A-5
CN404	A-5	R421	G-3	R478	I-6	X402	B-5
CN408	C-8	R422	G-3	R479	I-6		
		R423	H-3	R480	C-8		
D401	C-9	R425	F-4	R481	D-7		
D402	I-4	R426	C-6	R482	C-8		
D405	C-2	R427	C-4	R483	D-7		
D406	B-9	R428	H-4	R484	H-7		
D407	C-9	R429	B-5	R486	I-6		
D410	F-3	R430	H-4	R487	A-6		
D411	F-5	R431	B-5	R488	I-6		
D414	C-5	R432	H-4	R489	H-7		
D415	C-5	R433	B-4	R490	B-7		
D418	F-4	R434	C-5	R491	B-6		

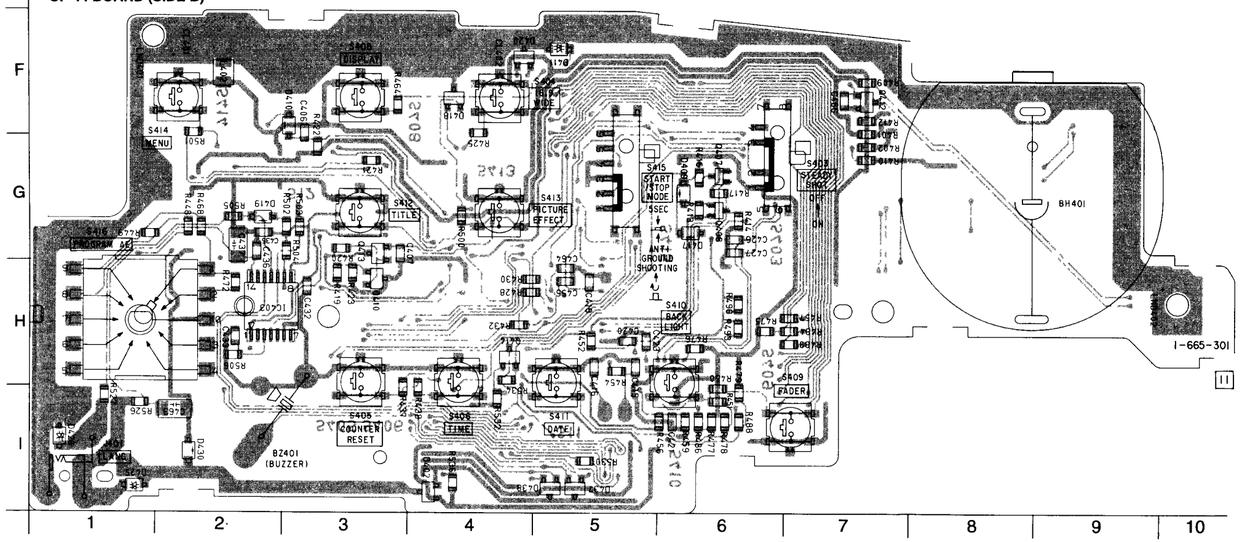




CF-44 BOARD (SIDE A)



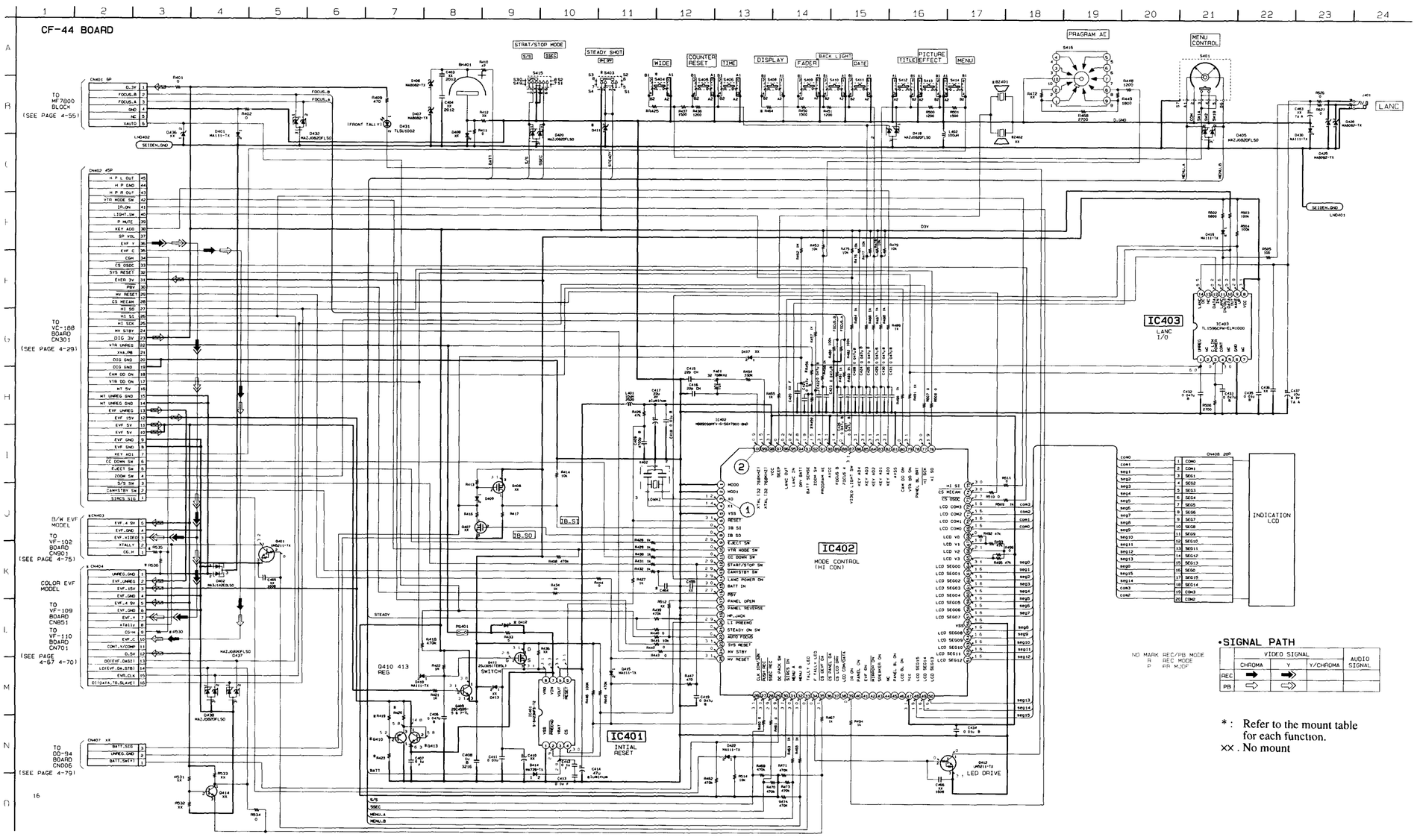
CF-44 BOARD (SIDE B)



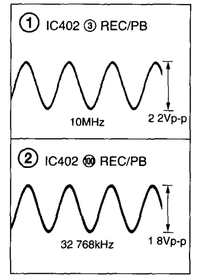
CF-44 (SYSTEM CONTROL) SCHEMATIC DIAGRAM

— Ref No CF-44 Board, 2,000 Series —

• See page 4-56 for the difference parts list.



CF-44 BOARD



•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	⇨	⇨		
PB	⇦	⇦		

NO MARK REC/PB MODE
R REC MODE
P PB MODE

* : Refer to the mount table for each function.
XX . No mount

COLOR EVF MODEL

VF-110 (RGB DECODER), VF-109 (H AFC), LB-49 (BACK LIGHT) PRINTED WIRING BOARDS

— Ref No. VF-110 Board, VF-109 Board, LB-49 Board, 4,000 Series —

VF-110 BOARD

C701	C-3	CN702	A-4	R737	G-1		
C702	F-3	CN703	B-1	R738	G-1		
C703	C-3			R739	G-1		
C704	F-3	D701	E-1	R740	F-5		
C705	E-3	D702	C-4	R743	F-4		
C706	C-3	D703	F-4	R744	G-4		
C707	E-4	D704	C-2	R746	G-3		
C708	E-2			R747	F-4		
C709	C-2	IC701	B-3	R748	G-4		
C710	C-4	IC702	C-4	R749	F-4		
C711	C-2	IC703	A-5	R750	G-3		
C712	B-4	IC704	F-1	R753	G-5		
C713	E-4			R754	C-1		
C714	C-2	L701	E-2	R755	C-2		
C715	C-4	L702	B-2	R756	B-2		
C716	B-4	L703	F-3	R757	B-2		
C717	F-3	L704	A-1	R761	B-2		
C718	G-4	L707	B-2	R762	G-5		
C719	B-5			R763	A-5		
C720	G-4	Q702	F-5	R767	F-3		
C721	G-4	Q703	G-5	R768	A-5		
C722	G-4			R769	A-5		
C723	G-2	R701	E-1	R770	A-5		
C724	A-4	R703	C-3	R771	G-5		
C725	F-3	R704	C-3				
C726	F-4	R705	C-3	X701	A-3		
C728	F-3	R707	C-4				
C729	G-3	R708	C-2				
C730	G-3	R709	E-5				
C731	G-3	R710	F-4				
C732	E-5	R711	E-2				
C733	G-3	R712	F-4				
C734	G-2	R716	C-2				
C735	F-4	R717	B-6				
C736	G-2	R718	F-5				
C737	F-3	R719	F-5				
C738	G-1	R720	G-4				
C739	B-1	R721	F-4				
C740	B-2	R722	G-4				
C741	C-1	R723	A-4				
C742	A-2	R724	G-1				
C744	B-2	R725	A-1				
C745	B-2	R726	D-5				
C746	G-5	R727	F-5				
C747	E-2	R728	F-5				
C748	A-5	R729	F-5				
C749	E-1	R730	F-5				
C750	E-1	R731	D-5				
C751	E-1	R732	D-5				
C752	G-1	R734	F-3				
		R735	B-5				
CN701	E-3	R736	F-5				

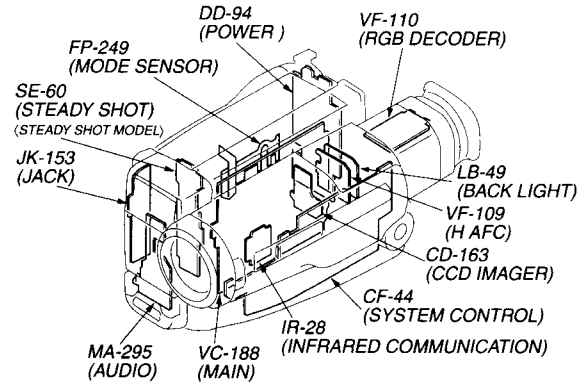
VF-109 BOARD

C851	C-9	R875	B-9		
C852	A-9	R879	B-8		
C853	C-8	R881	B-8		
C854	C-8	R891	E-9		
C855	B-7				
C856	A-8				
C857	B-8				
C858	B-7				
C859	B-7				
C860	B-8				
C865	B-9				
C867	C-9				
C868	B-8				
C870	B-8				
C871	B-8				
CN851	A-9				
CN852	E-9				
D852	C-8				
D853	C-9				
IC851	B-8				
IC852	B-9				
L853	A-8				
Q853	F-8				
R852	E-9				
R853	F-10				
R854	F-10				
R855	F-10				
R856	E-9				
R857	F-9				
R858	F-9				
R859	C-8				
R860	C-8				
R861	C-8				
R862	C-7				
R863	E-7				
R864	E-7				
R865	E-7				
R866	F-8				
R867	E-7				
R868	E-8				
R869	F-8				
R870	F-8				
R871	F-7				
R872	E-8				
R873	E-8				
R874	F-8				

LB-49 BOARD

C801	C-11
C802	C-11
C803	C-12
C804	C-12
C805	C-12
C806	C-11
CN801	C-13
D802	C-12
L801	C-11
L802	C-11
ND801	F-12
Q801	E-11
R801	C-12
R802	E-12
T801	E-12

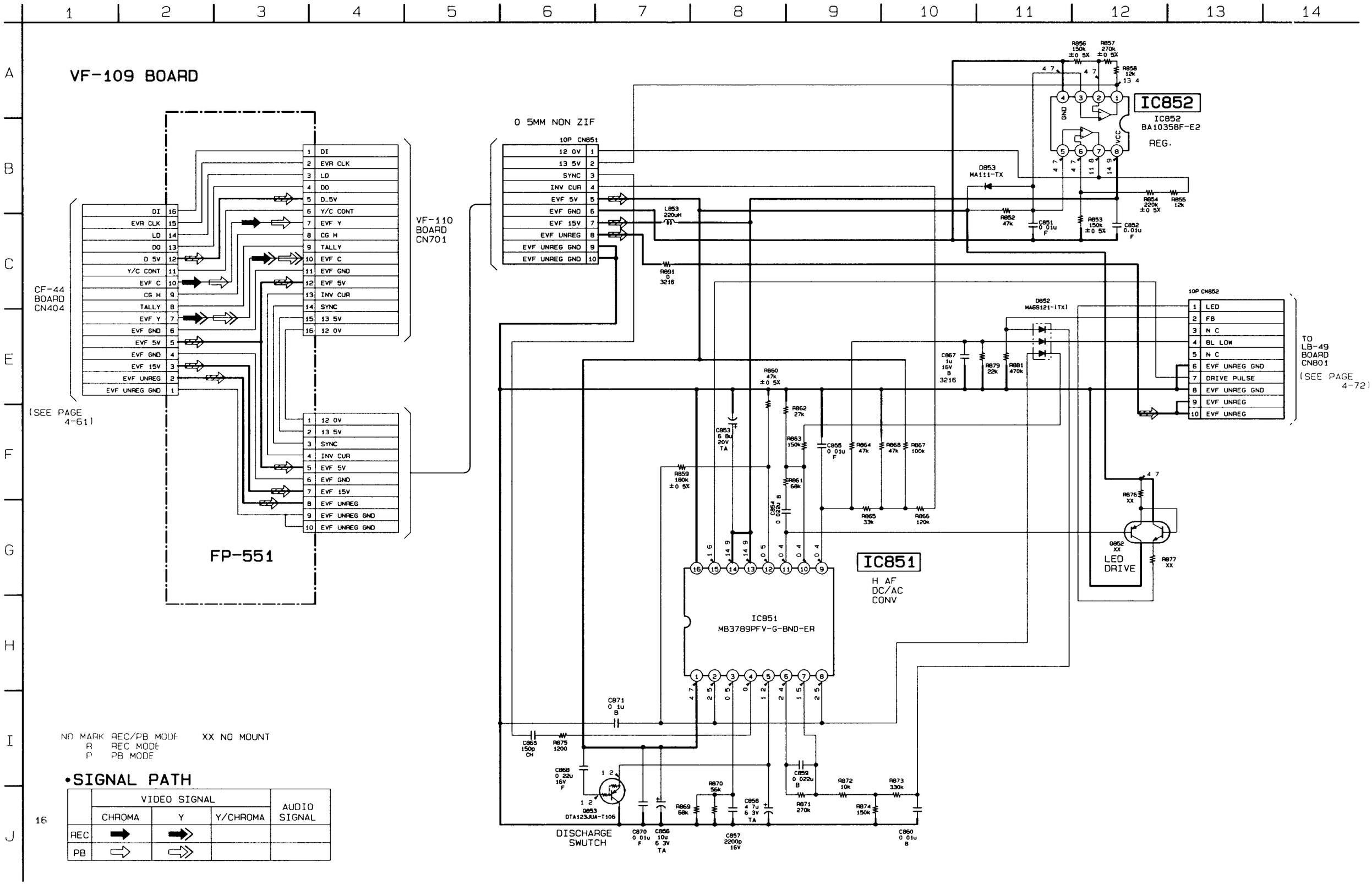
COLOR EVF MODEL



COLOR EVF MODEL

VF-109 (H AFC), LB-49 (BACK LIGHT) SCHEMATIC DIAGRAMS
— Ref. No. VF-109 Board, LB-49 Board; 4,000 Series —

• See page 4-64 for VF-109 BOARD printed wiring board.



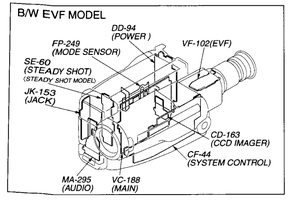
B/W EVF MODEL

VF-102 (EVF) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM
— Ref No. VF-102 Board, 6,000 Series —

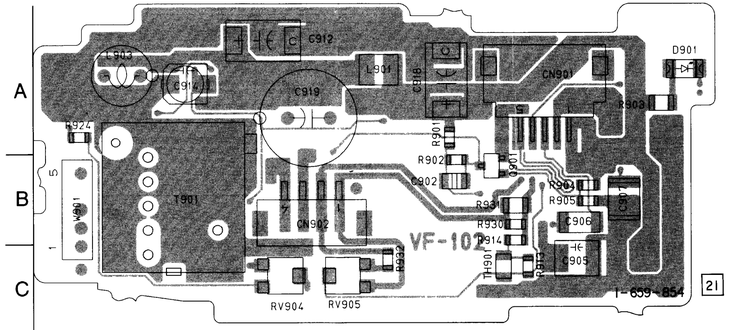
There are few cases that the part printed on this diagram isn't mounted in this model.

VF-102 BOARD

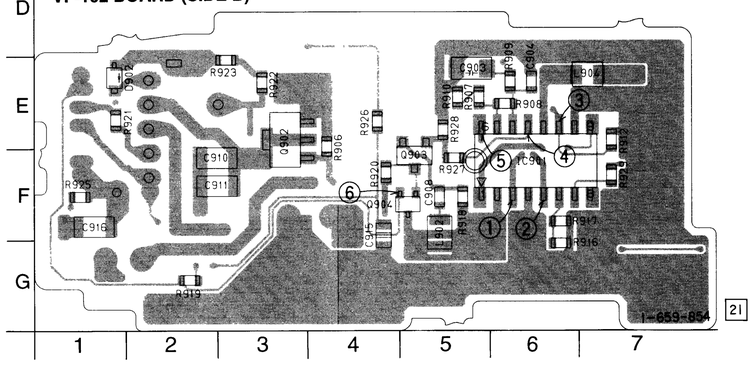
C902	B-5	R902	B-5
C903	E-5	R903	A-7
C904	E-6	R906	E-4
C905	C-6	R907	E-5
C906	B-6	R908	E-6
C907	B-7	R909	E-6
C908	F-5	R910	E-5
C910	F-2	R912	F-2
C911	F-2	R916	G-6
C912	A-3	R917	F-6
C914	A-2	R918	F-5
C915	F-4	R919	G-2
C916	F-1	R920	F-4
C919	A-3	R921	E-1
		R922	E-3
CN901	A-6	R923	E-3
CN902	B-3	R924	A-1
		R925	F-1
D901	A-7	R926	E-4
D902	E-1	R927	F-5
		R928	E-5
IC901	F-6	R929	F-7
		R930	B-6
L901	A-4	R931	B-6
L902	F-5	R932	C-4
L903	A-1		
L904	E-6	RV904	C-3
		RV905	C-4
Q902	E-3		
Q903	F-5	T901	B-2
Q904	F-4		
		W901	B-1
R901	A-5		



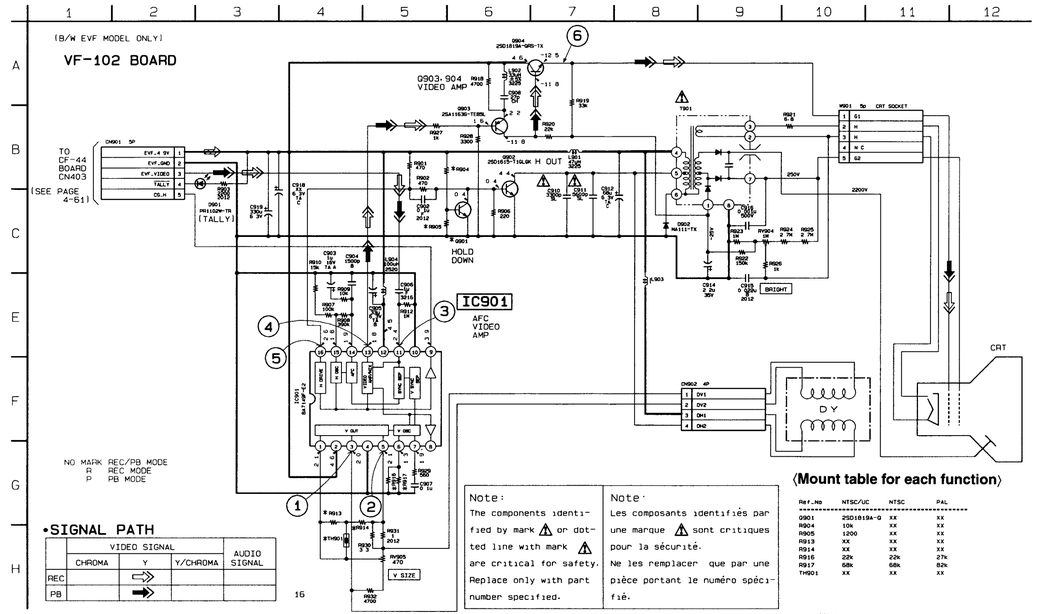
VF-102 BOARD (SIDE A)



VF-102 BOARD (SIDE B)



VF-102 BOARD



•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC		⇨		
PB		➡		

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

⟨Mount table for each function⟩

Ref. No.	NTSC/UC	NTSC	PAL
Q901	2SD1819A-Q	XX	XX
R904	10k	XX	XX
R905	120Ω	XX	XX
R913	XX	XX	XX
R914	XX	XX	XX
R916	22k	22k	27k
R917	56k	68k	82k
TH901	XX	XX	XX

Note
UC US/Canadian

VF-102 BOARD

① IC901 ③ REC/PB — V — 2Vp-p

② IC901 ⑤ REC/PB — V — 2 0Vp-p

③ IC901 ⑪ REC/PB — H — 1 0Vp-p

④ IC901 ⑬ REC/PB — H — 2 5Vp-p

⑤ IC901 ⑯ REC/PB — H — 2 3Vp-p

⑥ Q904 Ⓔ — H — 10Vp-p

DD-94 BOARD

* : Refer to the mount table for each function

xx . No mount

NO MARK REC/PB MODE
A REC MODE
P PB MODE

IC001
IC001
SN104213PM-T6
SWITCHING REG

TO VC-188 BOARD CN302 (SEE PAGE 4-29)

TO SE-60 BOARD CN651 (SEE PAGE 4-86)

TO CF-44 BOARD CN407 (SEE PAGE 4-61)

BATTERY TERMINAL

V.LIGHT SWITCH

ZOOM

•SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		▬▶	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		▬▶»	
Ref signal			

Note
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety Replace only with part number specified

Note
Les composants identifies par une marque ⚠ sont critiques pour la securité Ne les remplacer que par une piece portant le numero specifie

SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

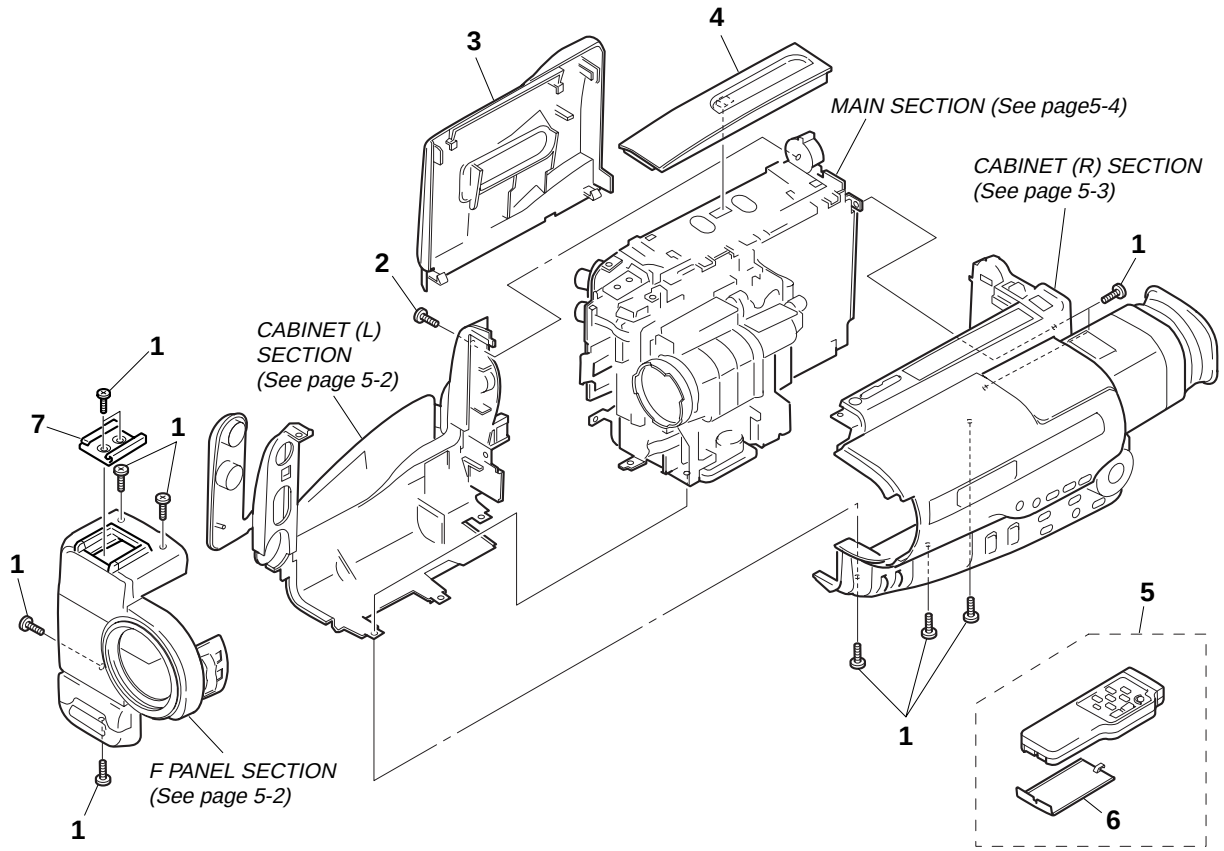
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

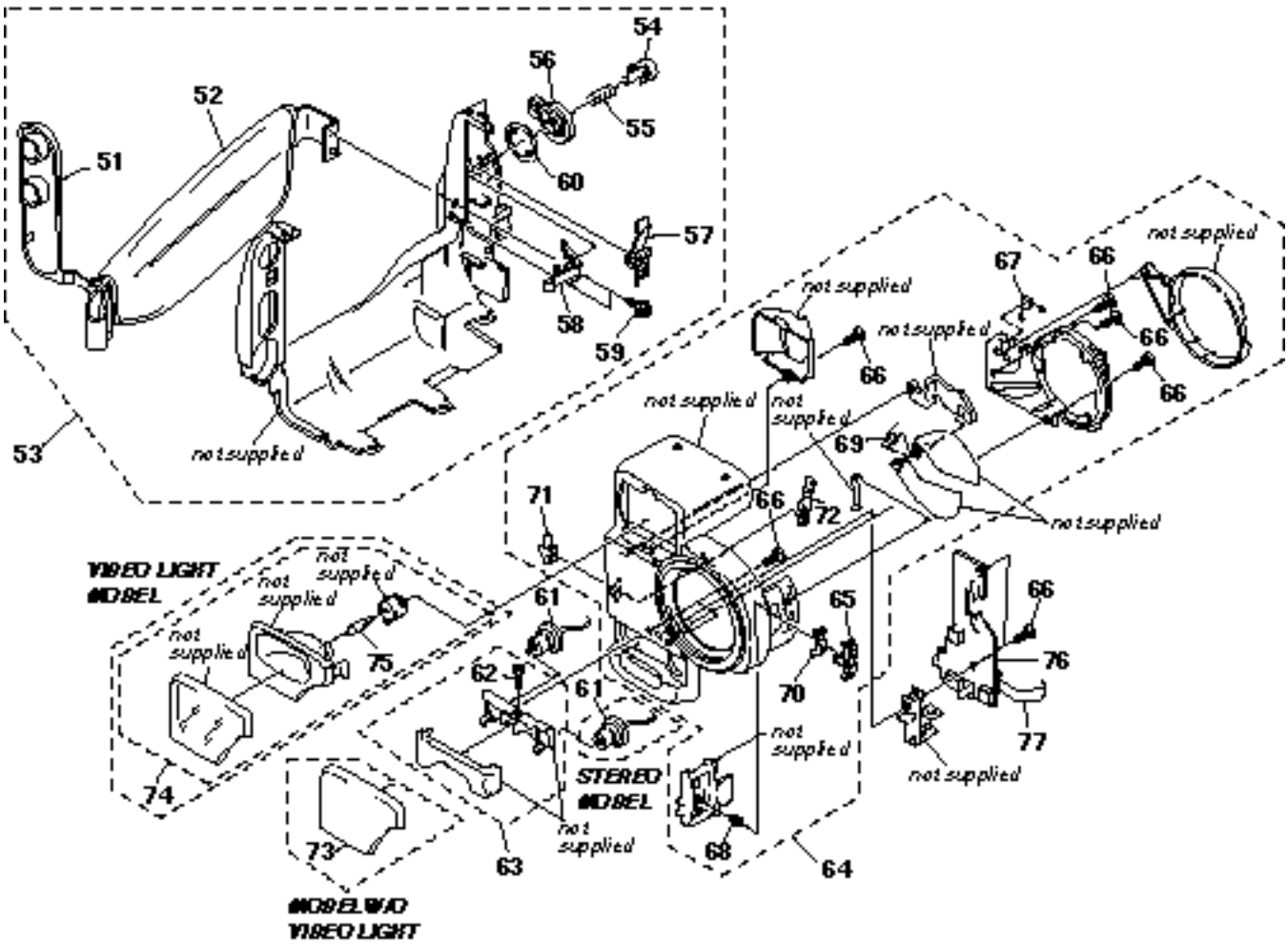
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

5-1-1. OVERALL SECTION

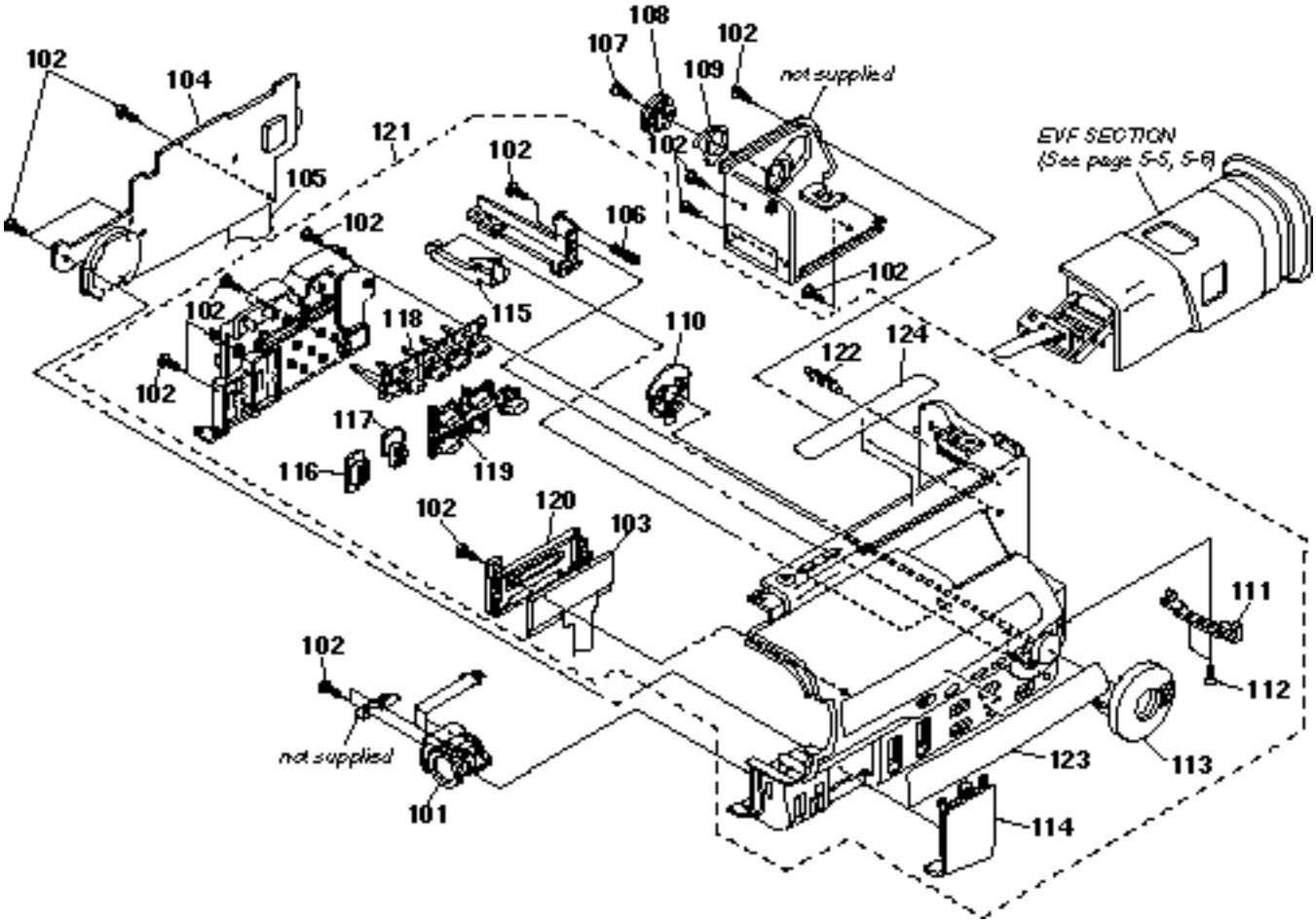


Ref. No.	Part No.	Description	Remarks
1	3-962-826-01	SCREW (2X4)	
2	3-713-786-21	SCREW (M2X3)	
3	X-3945-446-4	LID ASSY, CASSETTE (TR916/TR501E)	
3	X-3947-229-1	LID ASSY (G), CASSETTE (EXCEPT TR916/TR501E)	
4	3-975-365-01	LID, LS (EXCEPT TR916/TR501E)	
4	3-975-365-11	LID, LS (TR916/TR501E)	
5	1-473-342-11	REMOTE COMMANDER (RMT-713)	
6	3-958-131-01	COVER,BATTERY REMOCON	
7	3-975-363-01	SHOE, ACCESSORY	

5-1-2. CABINET (L), F PANEL SECTION

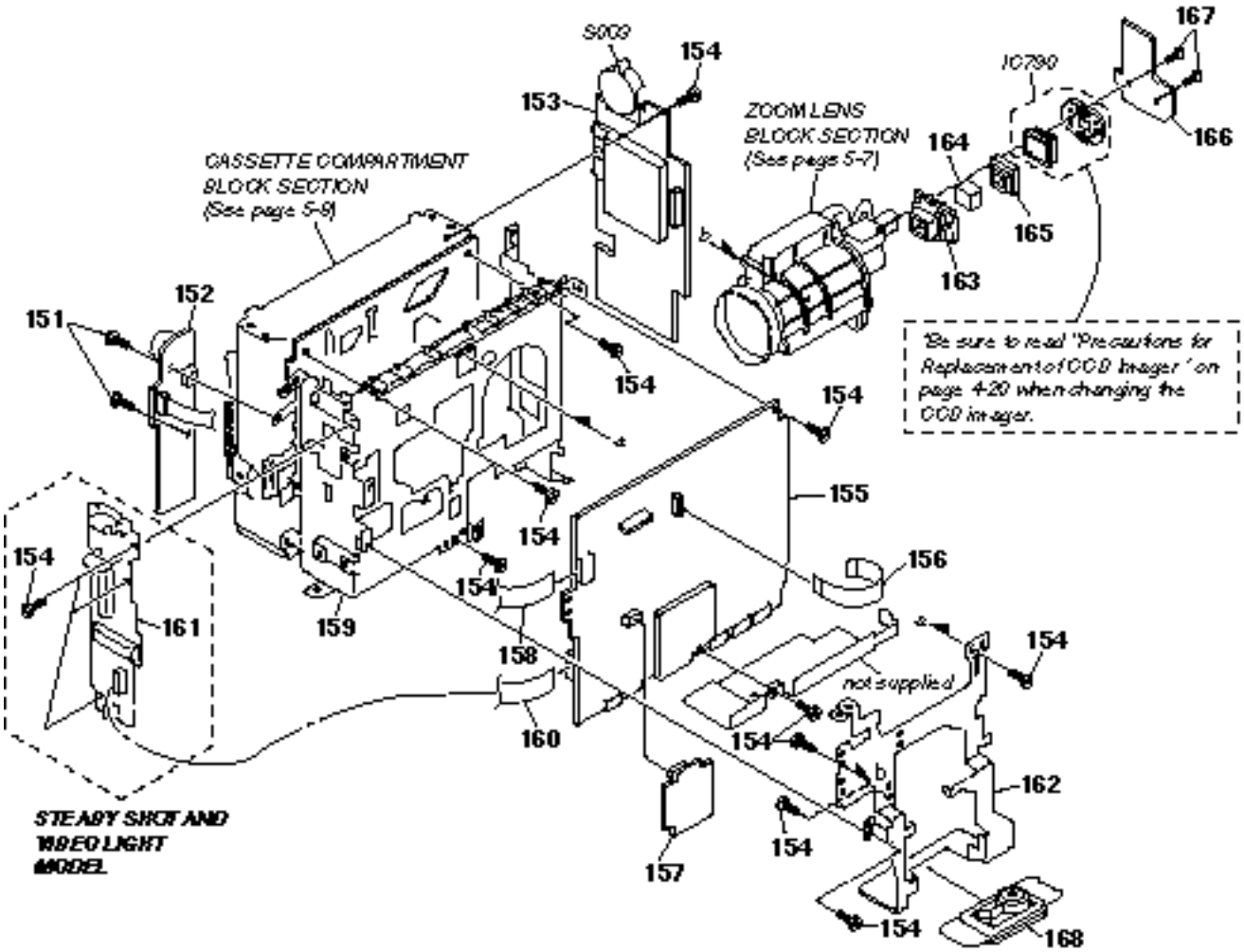

54
56
52
55
51
60
57
58
59
53
not supplied
not supplied
not supplied

5-1-3. CABINET (R) SECTION



Ref. No.	Part No.	Description	Remarks
101	1-475-068-11	SWITCH BLOCK, CONTROL(MF-7800)	
102	3-719-601-01	SCREW (B2X5), TAPPING	
103	1-801-697-21	DISPLAY PANEL, LIQUID CRYSTAL	
104	A-7093-256-A	CF-44 BOARD, COMPLETE (TR503E)	
104	A-7093-254-A	CF-44 BOARD, COMPLETE (TR501E)	
104	A-7093-260-A	CF-44 BOARD, COMPLETE (TR96/TR916)	
104	A-7093-258-A	CF-44 BOARD, COMPLETE (TR506/TR507/TR506E)	
104	A-7093-257-A	CF-44 BOARD, COMPLETE (TR86)	
104	A-7093-261-A	CF-44 BOARD, COMPLETE (TR720E/TR740E)	
104	A-7093-259-A	CF-44 BOARD, COMPLETE (TR620E)	
104	A-7093-255-A	CF-44 BOARD, COMPLETE (TR502E)	
105	1-782-153-11	CABLE, FLEXIBLE FLAT 45P	
106	3-965-846-01	SPRING, COMPRESSION	
107	3-713-790-31	SCREW (M2X8), TAPPING, P3	
108	3-974-325-01	FLANGE, ROTARY	
109	3-974-326-01	FLANGE, SLIDER	
110	3-974-220-01	HOLDER, AE	
111	3-965-854-01	CLAW, BT LOCK	
112	3-966-178-01	SCREW (1.7)	
113	3-974-219-01	DIAL, AE	
114	3-974-221-01	LID, LITHIUM (TR96/TR501E/TR740E)	
114	3-974-221-11	LID, LITHIUM (TR86/TR506/TR507/TR916/TR502E/TR503E/TR506E/TR620E/TR720E)	
115	3-965-879-01	SLIDER, BT	
116	3-974-205-01	KNOB, 2P (TR96/TR916/TR620E/TR720E/TR740)	
117	3-974-204-01	KNOB, 3P	

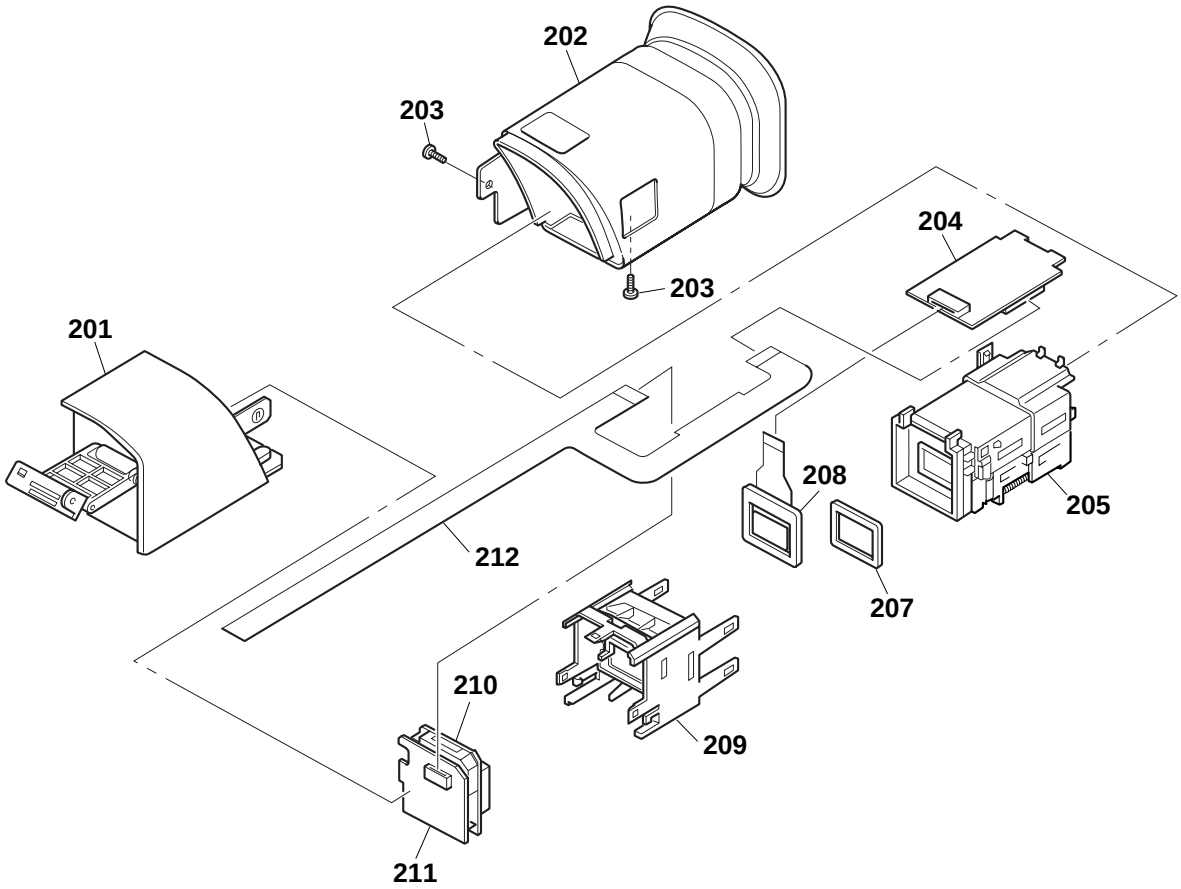
Ref. No.	Part No.	Description	Remarks
118	3-974-202-01	BUTTON (1), CF (TR501E/TR503E)	
118	3-974-202-11	BUTTON (1), CF (EXCEPT TR501E/TR503E)	
119	3-974-203-01	BUTTON (2), CF (TR506/TR501E/TR502E/TR503E/TR506E)	
119	3-974-203-11	BUTTON (2), CF (TR86/TR96/TR507/TR916/TR620E/TR720E/TR740E)	
* 120	3-944-328-01	COVER, LIQUID CRYSTAL (TR916)	
121	X-3946-889-1	CABINET (R) ASSY (TR501E)	
121	X-3947-260-1	CABINET (R) ASSY (MM) (TR620E/TR720E)	
121	X-3947-262-1	CABINET (R) ASSY (GS) (TR96/TR740E)	
121	X-3947-316-1	CABINET (R) ASSY (G) (TR503E)	
121	X-3947-345-1	CABINET (R) ASSY (LC) (TR506/TR502E/TR506E)	
121	X-3947-371-1	CABINET (R) ASSY (W1) (TR86/TR507)	
121	X-3947-435-1	CABINET (R) ASSY (BG) (TR916)	
122	3-976-957-01	SPRING, TENSION	
123	3-974-216-01	WINDOW, LCD (TR501E)	
123	3-974-216-11	WINDOW, LCD (TR96)	
123	3-974-216-21	WINDOW, LCD (TR503E)	
123	3-974-216-31	WINDOW, LCD (TR506E)	
123	3-974-216-41	WINDOW, LCD (TR740E)	
123	3-974-216-51	WINDOW, LCD (TR86)	
123	3-974-216-61	WINDOW, LCD (TR620E)	
123	3-974-216-81	WINDOW, LCD (TR502E)	
123	3-976-623-01	WINDOW, LCD (TR506)	
123	3-976-623-11	WINDOW, LCD (TR507)	
123	3-976-623-21	WINDOW, LCD (TR720E)	
123	3-976-623-31	WINDOW, LCD (TR916)	
124	3-975-376-01	SHEET, LETTER	



Ref. No.	Part No.	Description	Remarks
151	3-968-729-01	SCREW (M2), LOCK ACE, P2	
152	A-7073-071-A	JK-153 BOARD, COMPLETE(TR501E:E/TR503E)	
152	A-7073-076-A	JK-153 BOARD, COMPLETE (TR501E:AEP/TR502E/TR620E)	
152	A-7073-082-A	JK-153 BOARD, COMPLETE(TR86/TR96/TR916)	
152	A-7073-125-A	JK-153 BOARD, COMPLETE (TR506/TR507/TR506E/TR720E/TR740E)	
153	A-7093-251-A	DD-94 BOARD, COMPLETE (TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
153	A-7093-252-A	DD-94 BOARD, COMPLETE (TR86/TR96/TR916)	
153	A-7093-253-A	DD-94 BOARD, COMPLETE (TR506/TR507)	
154	3-713-786-21	SCREW (M2X3)	
155	A-7093-241-A	VC-188 BOARD, COMPLETE (TR501E/TR503E)	
155	A-7093-249-A	VC-188 BOARD, COMPLETE (TR96/TR916)	
155	A-7093-243-A	VC-188 BOARD, COMPLETE (TR86)	
155	A-7093-250-A	VC-188 BOARD, COMPLETE (TR740E)	
155	A-7093-245-A	VC-188 BOARD, COMPLETE (TR506E)	
155	A-7093-247-A	VC-188 BOARD, COMPLETE (TR620E)	
155	A-7093-246-A	VC-188 BOARD, COMPLETE (TR507)	
155	A-7093-244-A	VC-188 BOARD, COMPLETE (TR506)	
155	A-7093-242-A	VC-188 BOARD, COMPLETE (TR502E)	
155	A-7093-290-A	VC-188 BOARD, COMPLETE (TR720E)	
156	1-782-155-11	CABLE, FLEXIBLE FLAT 16P	
157	A-7073-091-A	IR-28 BOARD, COMPLETE (TR86/TR96/TR507/TR916)	
157	A-7073-142-A	IR-28 BOARD, COMPLETE (TR740E)	
158	1-665-151-11	FP-550 FLEXIBLE BOARD	
* 159	3-975-367-01	FRAME, MD	
160	1-665-150-11	FP-549 FLEXIBLE BOARD (TR86/TR96/TR916/TR620E/TR720E/TR740E)	

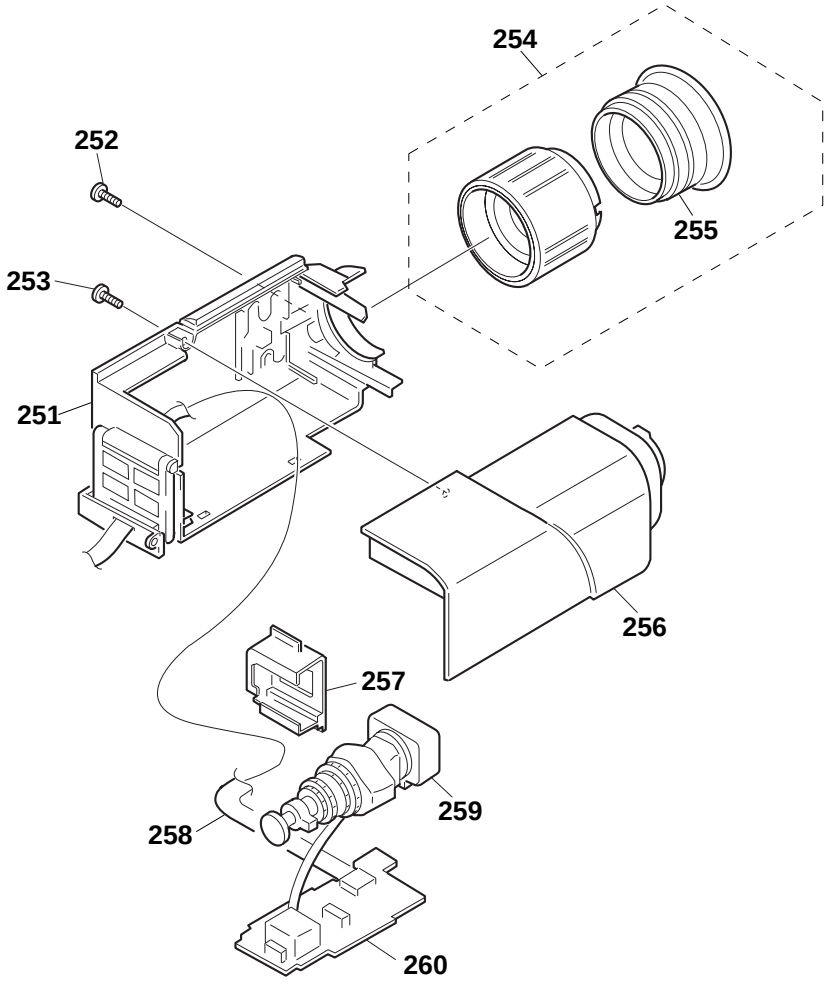
Ref. No.	Part No.	Description	Remarks
161	A-7073-087-A	SE-60 BOARD, COMPLETE (TR96/TR916)	
161	A-7073-129-A	SE-60 BOARD, COMPLETE (TR86)	
161	A-7073-145-A	SE-60 BOARD, COMPLETE (TR620E/TR720E/TR740E)	
* 162	3-975-366-11	FRAME, LENS	
163	3-963-467-11	ADAPTOR (FH), CCD FITTING	
164	1-547-787-41	FILTER BLOCK, OPTICAL (TR96/TR916/TR620E/TR720E/TR740E)	
164	1-547-924-41	FILTER BLOCK, OPTICAL (TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)	
165	3-961-192-01	RUBBER (FH), SEAL	
165	3-968-054-11	RUBBER (FM), SHIELD (TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)	
166	A-7073-072-A	CD-163 BOARD, COMPLETE	
167	3-318-203-11	SCREW (B1.7X6), TAPPING	
168	3-965-871-01	SCREW, TRIPOD	
IC790	A-7030-638-A	CCD BLOCK ASSY(MN37240FP) (TR96/TR916)	
IC790	A-7030-779-A	CCD BLOCK ASSY(ICX207AK-13) (TR501E/TR503E)	
IC790	A-7030-782-A	CCD BLOCK ASSY(ICX211AK-43) (TR620E/TR720E/TR740E)	
IC790	A-7030-785-A	CCD BLOCK ASSY(ICX206AK-43) (TR506/TR507)	
IC790	A-7030-788-A	CCD BLOCK ASSY(ICX207AK-43) (TR502E/TR506E)	
IC790	A-7030-794-A	CCD BLOCK ASSY(MN37113FP) (TR86)	
S003	1-762-441-21	SWITCH, ROTARY (ZOOM SW)	

5-1-5. EVF SECTION (COLOR EVF MODEL)



Ref. No.	Part No.	Description	Remarks
201	X-3946-884-1	CABINET (FRONT)(C)ASSY,EVF(EXCEPT TR916)	
201	X-3947-442-1	CABINET (FRONT)(G)ASSY,EVF(TR916)	
202	X-3946-885-1	CABINET (REAR) ASSY, EVF (EXCEPT TR916)	
202	X-3947-443-1	CABINET (REAR) (B)ASSY,EVF(TR916)	
203	3-948-339-01	SCREW, TAPPING	
204	A-7073-085-A	VF-110 BOARD, COMPLETE (TR86/TR96/TR506/TR507/TR916)	
204	A-7073-089-A	VF-110 BOARD, COMPLETE (TR503E/TR506E/TR720E/TR740E)	
205	X-3946-887-1	VF LENS ASSY	
* 207	3-960-302-11	CUSHION (1), LCD	
208	8-756-016-10	LCX005BK-5	
209	X-3946-886-1	HOLDER ASSY, PRISM	
210	A-7073-086-A	LB-49 BOARD, COMPLETE (TR86/TR96/TR506/TR507/TR916)	
210	A-7073-090-A	LB-49 BOARD, COMPLETE (TR503E/TR506E/TR720E/TR740E)	
211	A-7073-084-A	VF-109 BOARD, COMPLETE (TR86/TR96/TR506/TR507/TR916)	
211	A-7073-088-A	VF-109 BOARD, COMPLETE (TR503E/TR506E/TR720E/TR740E)	
212	1-665-152-11	FP-551 FLEXIBLE BOARD	

5-1-6. EVF SECTION (B/W EVF MODEL)

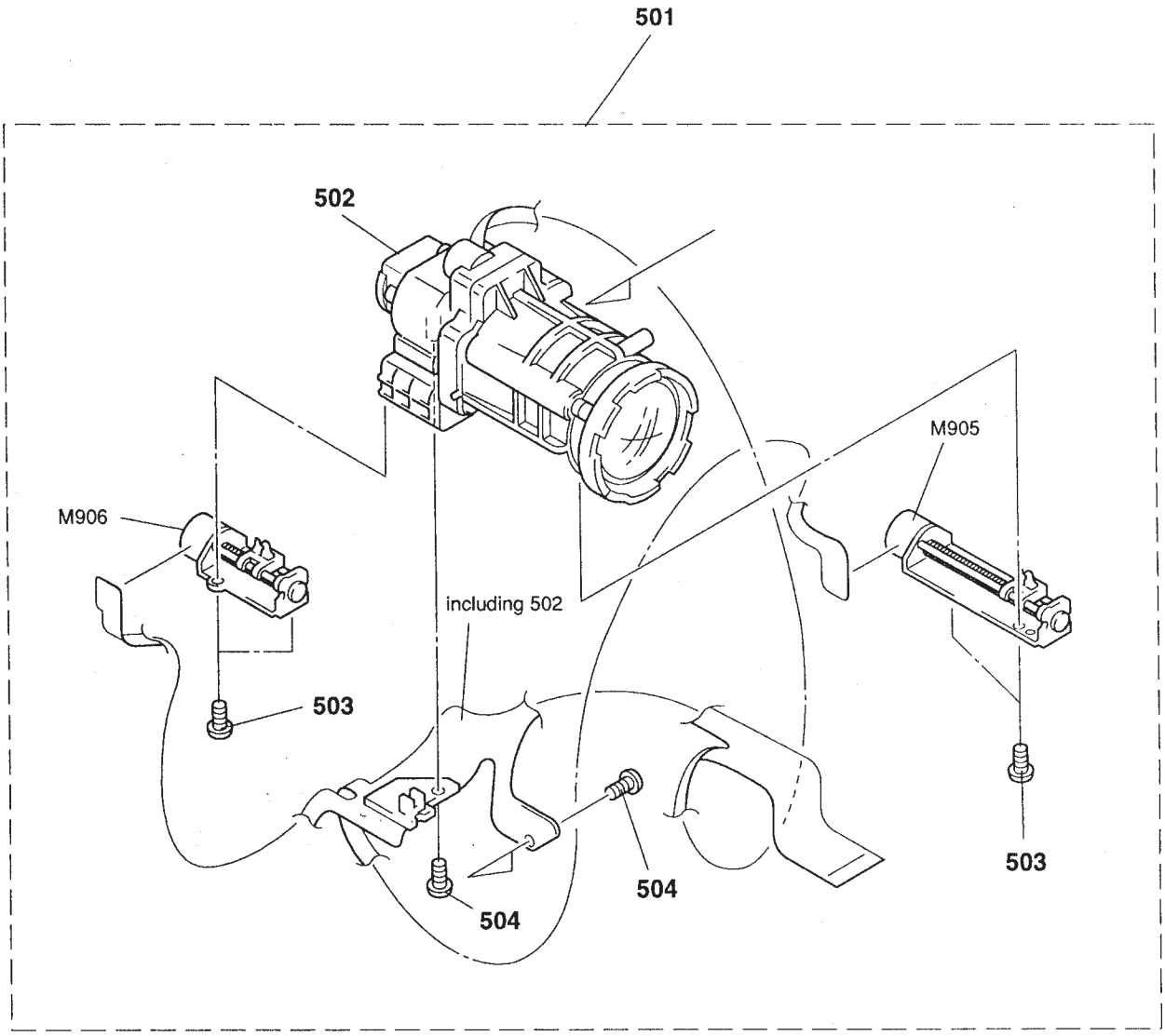


Ref. No.	Part No.	Description	Remarks
251	X-3946-883-1	CABINET (L) ASSY, EVF (TR502E/TR620E)	
251	X-3947-320-1	CABINET (L) ASSY, EVF (TR501E)	
252	3-975-898-01	SCREW(T), F LOCK	
253	3-948-339-01	SCREW, TAPPING	
254	X-3944-966-1	FINDER ASSY	
255	3-963-391-01	CUP, EYE	
256	3-974-155-01	CABINET (R), EVF (TR502E/TR620E)	
256	3-974-155-11	CABINET (R), EVF (TR501E)	
* 257	X-3947-303-1	COVER ASSY, CRT	
258	1-782-156-11	CABLE, FLEXIBLE FLAT 5P	
⚠ 259	1-452-673-31	CRT ASSY (M01KXX90WB) (TR501E/TR502E/TR620E)	
260	A-7073-078-A	VF-102 BOARD, COMPLETE	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

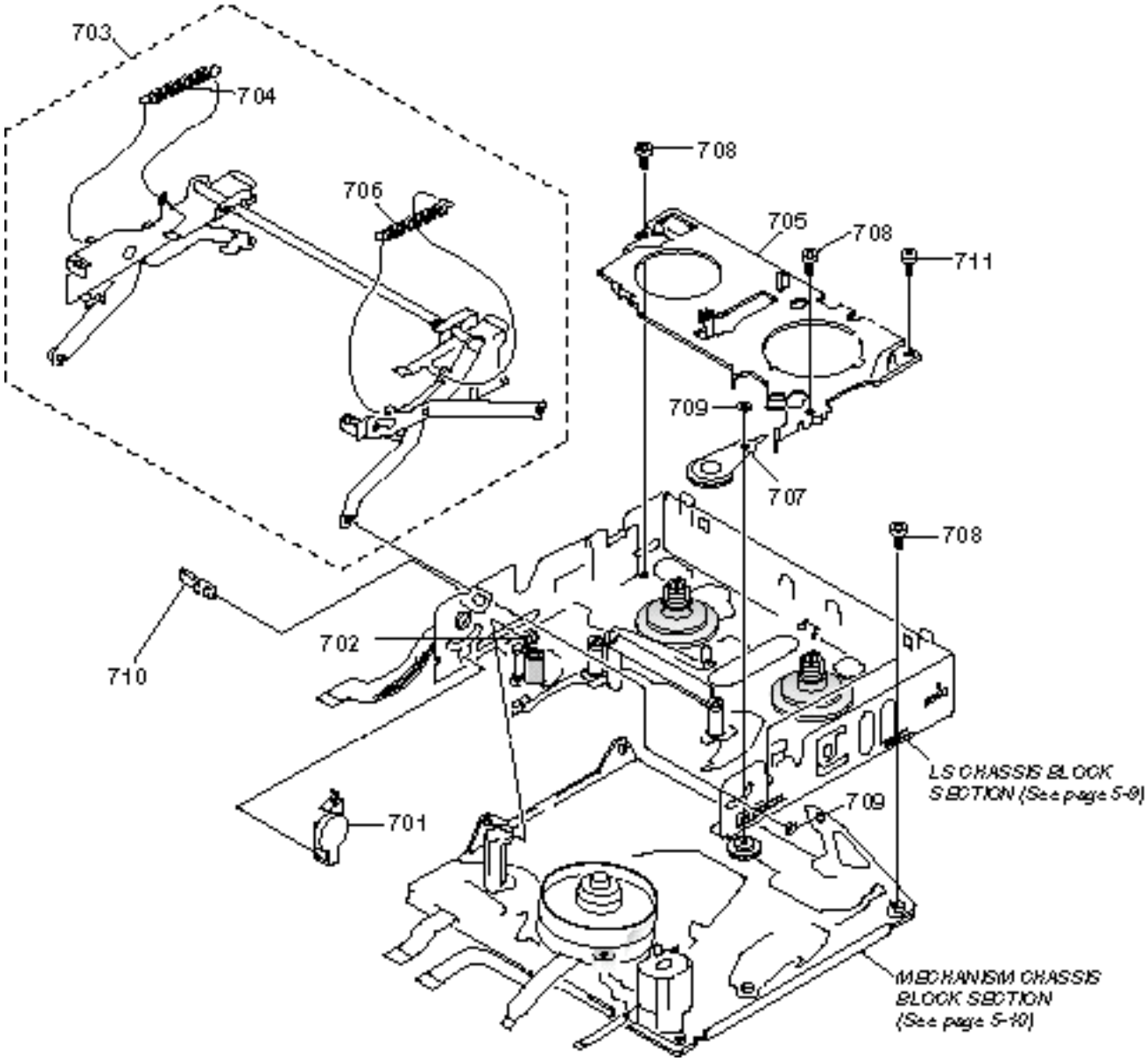
Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

5-1-7. ZOOM LENS BLOCK SECTION (LSV-510A)



Ref. No.	Part No.	Description	Remarks
501	8-848-710-01	LENS, ZOOM (LSV-510A)	
502	A-4910-808-A	LSV-510A LENS DEVICE	
503	3-713-791-41	SCREW (M1.7X5), TAPPING, P2	
504	3-708-302-01	SCREW (BT3 P1.7X4C)	
M905	1-698-760-01	STEPPING MOTOR (FOCUS)	
M906	1-698-759-01	STEPPING MOTOR (ZOOM)	

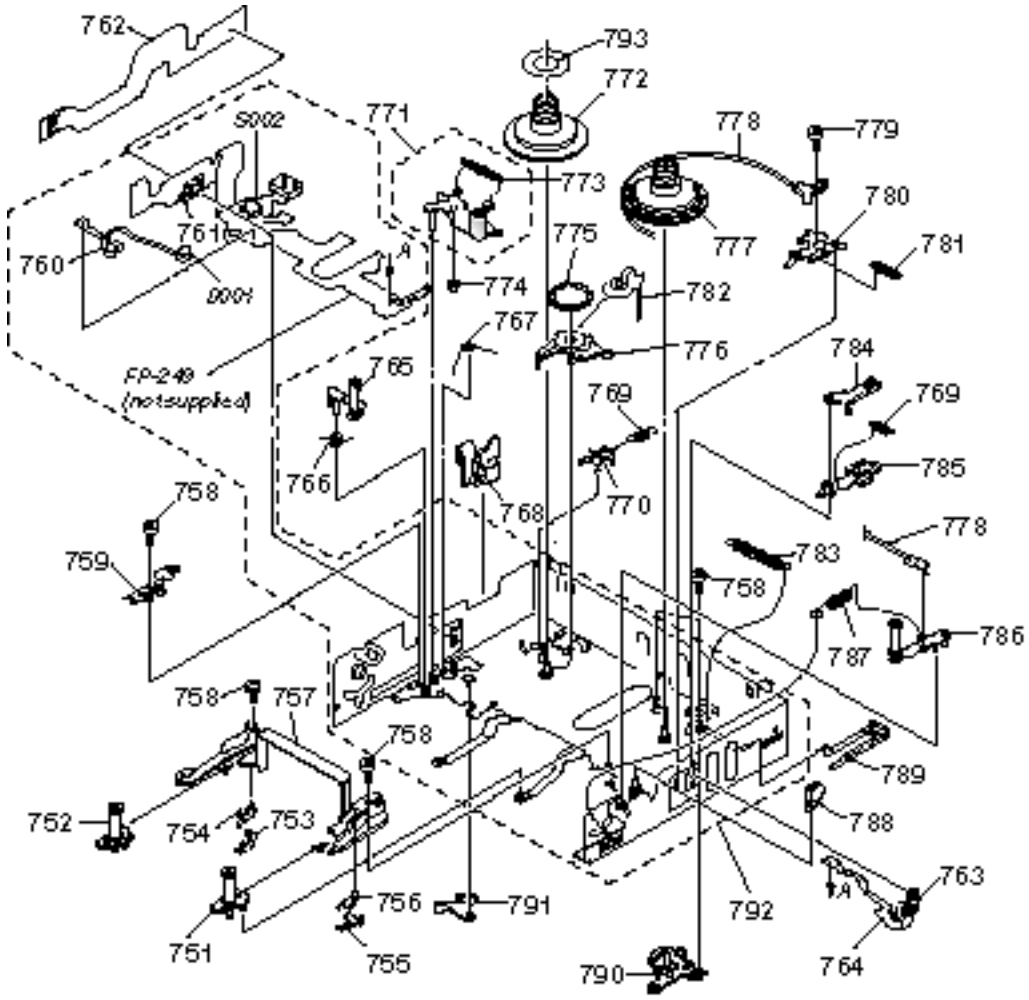
5-1-8. CASSETTE COMPARTMENT BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
701	A-7040-421-A	DAMPER ASSY	
702	7-624-102-04	STOP RING 1.5, TYPE -E	
703	X-3945-400-1	CASSETTE COMPARTMENT ASSY	
704	3-965-587-03	SPRING, TENSION	
705	3-965-584-01	RETAINER, GOOSENECK	
706	3-973-268-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remarks
707	X-3945-399-1	GEAR ASSY, GOOSENECK	
708	3-947-503-01	SCREW (M1.4X2.5)	
709	3-727-176-01	WASHER	
710	3-971-076-01	FASTENER, D	
711	3-976-055-01	SCREW (M1.4X1)	

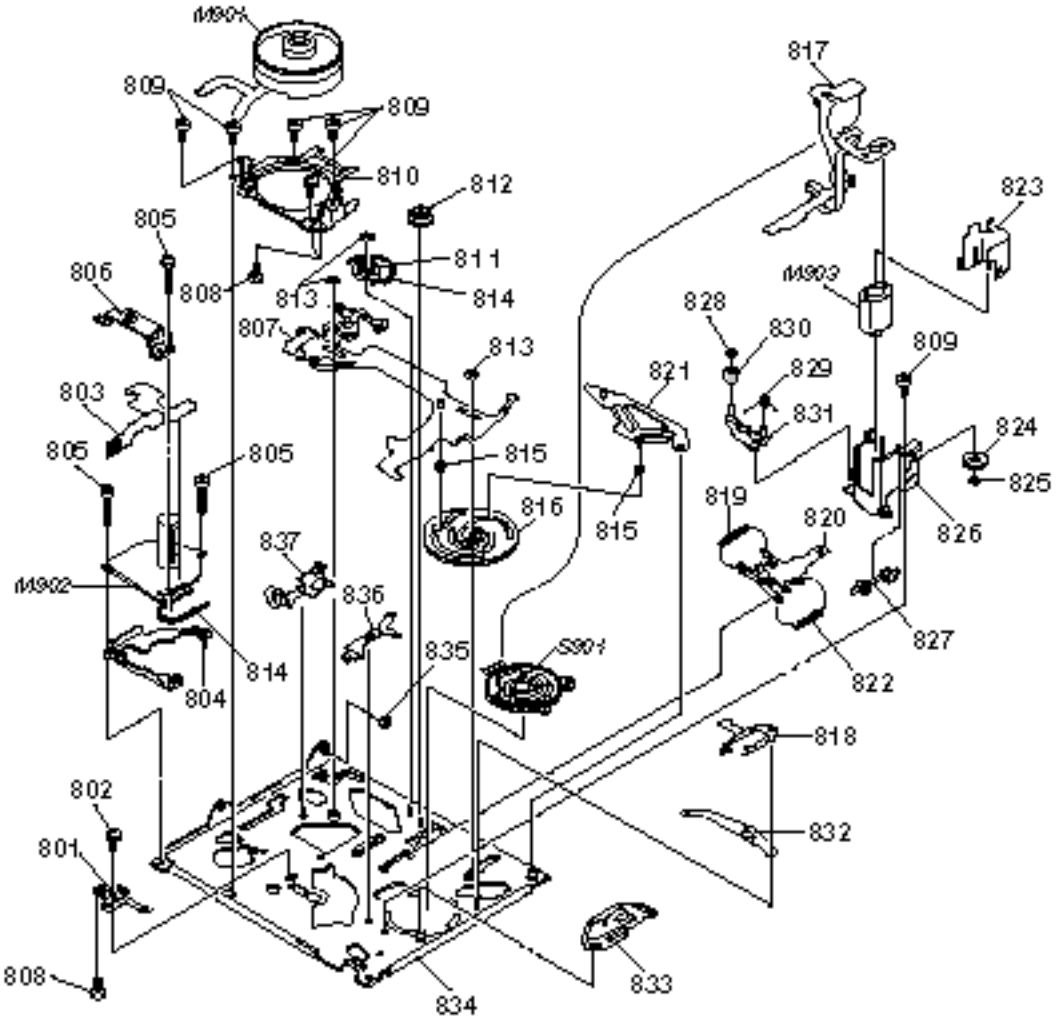
5-1-9. LS CHASSIS BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4X2.5)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE PRINT BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-11	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE PRINT BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING, TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-01	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-01	RATCHET, T	
771	X-3945-394-1	ARM ASSY, PINCH	
772	X-3945-398-1	DECK ASSY, REEL, T	

Ref. No.	Part No.	Description	Remarks
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING, TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
* 793	3-972-838-01	SPACER, REEL	
D001	8-719-988-42	DIODE GL453	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)	

5-1-10. MECHANISM CHASSIS BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
801	X-3947-343-1	GROUND (IM) ASSY, SHAFT	
802	3-965-550-02	SCREW (M1.7X1.6)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-965-545-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
806	3-966-349-01	HOLDER, FLEXIBLE	
807	3-971-644-01	SLIDER (2), M	
808	3-965-588-11	SCREW (M1.4)	
809	3-947-503-01	SCREW (M1.4X2.5)	
810	A-7040-416-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING, TENSION	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-01	ARM, LS	

Ref. No.	Part No.	Description	Remarks
822	3-965-535-01	SPRING, TENSION	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING, TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3946-548-2	CHASSIS ASSY, MECHANICAL	
835	3-965-526-02	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
M901	A-7048-851-A	DRUM BLOCK ASSY (DGH-0D5A-R)(PAL)	
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)	
M902	8-835-531-01	MOTOR, DC SCE-0601A (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

5-2. ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board naame.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
	A-7073-072-A	CD-163 BOARD, COMPLETE			
		**********			
					(Ref.No.2,000 Series)
		< CAPACITOR >			
C401	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C405	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C406	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
		< CONNECTOR >			
CN401	1-691-380-21	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC790	A-7030-638-A	CCD BLOCK ASSY(MN37240FP) (TR96/TR916)			
IC790	A-7030-779-A	CCD BLOCK ASSY(ICX207AK-13)			
					(TR501E/TR503E)
IC790	A-7030-782-A	CCD BLOCK ASSY(ICX211AK-43)			
					(TR620E/TR720E/TR740E)
IC790	A-7030-785-A	CCD BLOCK ASSY(ICX206AK-43)			
					(TR506/TR507)
IC790	A-7030-788-A	CCD BLOCK ASSY(ICX207AK-43)			
					(TR502E/TR506E)
IC790	A-7030-794-A	CCD BLOCK ASSY(MN37113FP) (TR86)			
		< COIL >			
L401	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q401	8-729-232-86	TRANSISTOR 2SK1875-(TE85L)			
Q402	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			
		< RESISTOR >			
R403	1-216-833-11	METAL CHIP	10K	5%	1/16W
R404	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R407	1-216-295-91	CONDUCTOR, CHIP (2012)			

Ref. No.	Part No.	Description			Remarks
	A-7093-254-A	CF-44 BOARD,COMPLETE(TR501E)			
		**********			
	A-7093-255-A	CF-44 BOARD,COMPLETE(TR502E)			
		**********			
	A-7093-256-A	CF-44 BOARD,COMPLETE(TR503E)			
		**********			
	A-7093-258-A	CF-44 BOARD,COMPLETE			
					(TR506/TR507/TR506E)
		**********			
	A-7093-259-A	CF-44 BOARD,COMPLETE(TR620E)			
		**********			
	A-7093-261-A	CF-44 BOARD,COMPLETE(TR720E/TR740E)			
		**********			
	A-7093-257-A	CF-44 BOARD,COMPLETE(TR86)			
		**********			
	A-7093-260-A	CF-44 BOARD,COMPLETE(TR96/TR916)			
		**********			
					(Ref.No.2,000 Series)
	3-831-441-XX	CUSHION (5)			
		< BATTERY >			
BH401	1-550-104-11	HOLDER, BATTERY			
		< BUZZER >			
BZ401	1-529-104-11	BUZZER, PIEZOELECTRIC			
		< CAPACITOR >			
C403	1-164-346-11	CERAMIC CHIP	1uF		16V
					(TR96/TR916)
C404	1-164-346-11	CERAMIC CHIP	1uF		16V
					(TR96/TR916)
C406	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C407	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C408	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C409	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C412	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C413	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C414	1-126-607-11	ELECT CHIP	47uF	20%	4V
C415	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C416	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C417	1-128-003-11	ELECT CHIP	22uF	20%	4V
C418	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C419	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C421	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C422	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C423	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C424	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C425	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C426	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C427	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C428	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C429	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C430	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C431	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C432	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C433	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C434	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C435	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C437	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C464	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (EXCEPT TR502E)
		< CONNECTOR >			
CN401	1-766-866-21	CONNECTOR, FFC/FPC 6P			
CN402	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P			
CN403	1-779-353-21	CONNECTOR, FFC/FPC 5P			(TR501E/TR502E/TR620E)
CN404	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P			(TR86/TR96/TR506/TR507/TR916/TR503E/TR506E/TR720E/TR740E)
CN408	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P			
		< DIODE >			
D401	8-719-404-49	DIODE MA111-TX (EXCEPT TR96/TR916)			
D402	8-719-059-51	DIODE MA3J142E0LSO			
D405	8-719-059-57	DIODE MAZJ082DFLSO			
D406	8-719-420-14	DIODE MA8082-TX			
D407	8-719-420-14	DIODE MA8082-TX			
D410	8-719-404-49	DIODE MA111-TX			
D411	8-719-420-14	DIODE MA8082-M (TR620E/TR720E/TR740E)			
D414	8-719-421-27	DIODE MA728-TX			
D415	8-719-404-49	DIODE MA111-TX			
D418	8-719-059-57	DIODE MAZJ082DFLSO			(EXCEPT TR96/TR916)
D419	8-719-404-49	DIODE MA111-TX			
D420	8-719-059-57	DIODE MAZJ082DFLSO			(EXCEPT TR96/TR916)
D422	8-719-404-49	DIODE MA111-TX			
D425	8-719-420-14	DIODE MA8082-TX			
D426	8-719-420-14	DIODE MA8082-TX			
D430	8-719-404-49	DIODE MA111-TX			
D431	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
D432	8-719-059-57	DIODE MAZJ082DFLSO			(EXCEPT TR96/TR916)
D437	8-719-059-57	DIODE MAZJ082DFLSO (EXCEPT TR501E)			
D438	8-719-059-57	DIODE MAZJ082DFLSO (EXCEPT TR501E)			
		< IC >			
IC401	8-759-298-10	IC S-8423NFS-T2			
IC402	8-759-449-48	IC MB89098RPFV-G-152-BND			
IC403	8-759-059-05	IC TL1596CPW-ELM1000			
		< JACK >			
J401	1-565-276-21	JACK, ULTRA SMALL 1P (LANC)			
		< COIL >			
L401	1-414-078-11	INDUCTOR 10uH			
L402	1-412-963-11	INDUCTOR 100uH			

Ref. No.	Part No.	Description			Remarks
		< IC LINK >			
⚠PS401	1-576-122-21	LINK, IC			
		< TRANSISTOR >			
Q401	8-729-015-76	TRANSISTOR UN5211-TX			
Q409	8-729-823-16	TRANSISTOR 2SC4555-5.6.7-TL			
Q410	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			(R86/TR96/TR916)
Q411	8-729-023-89	TRANSISTOR 2SJ305(TE85L)			
Q412	8-729-015-76	TRANSISTOR UN5211-TX			
Q413	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			(R86/TR96/TR916)
		< RESISTOR >			
R401	1-216-864-11	METAL CHIP	0	5%	1/16W
R402	1-216-864-11	METAL CHIP	0	5%	1/16W
R408	1-216-853-11	METAL CHIP	470K	5%	1/16W
R409	1-216-811-11	METAL CHIP	150	5%	1/16W (TR96/TR916/TR501E/TR503E)
R409	1-216-817-11	METAL CHIP	470	5%	1/16W (TR86/TR506/TR507/TR502E/TR506E/TR620E/TR720E/TR740E)
R410	1-216-805-11	METAL CHIP	47	5%	1/16W (TR502E)
R410	1-216-809-11	METAL CHIP	100	5%	1/16W (EXCEPT TR502E)
R411	1-216-864-11	METAL CHIP	0	5%	1/16W
R414	1-216-833-11	METAL CHIP	10K	5%	1/16W
R418	1-216-853-11	METAL CHIP	470K	5%	1/16W
R419	1-216-849-11	METAL CHIP	220K	5%	1/16W (TR86/TR96/TR916)
R420	1-216-833-11	METAL CHIP	10K	5%	1/16W
R421	1-216-821-11	METAL CHIP	1K	5%	1/16W
R422	1-216-857-11	METAL CHIP	1M	5%	1/16W
R423	1-216-845-11	METAL CHIP	100K	5%	1/16W
R425	1-216-827-11	METAL CHIP	3.3K	5%	1/16W (EXCEPT TR501E/TR503E)
R426	1-216-841-11	METAL CHIP	47K	5%	1/16W
R427	1-216-821-11	METAL CHIP	1K	5%	1/16W
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W
R429	1-216-821-11	METAL CHIP	1K	5%	1/16W
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R431	1-216-821-11	METAL CHIP	1K	5%	1/16W
R432	1-216-821-11	METAL CHIP	1K	5%	1/16W
R433	1-216-864-11	METAL CHIP	0	5%	1/16W
R434	1-216-821-11	METAL CHIP	1K	5%	1/16W
R437	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R438	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R439	1-216-853-11	METAL CHIP	470K	5%	1/16W
R440	1-216-864-11	METAL CHIP	0	5%	1/16W
R441	1-216-833-11	METAL CHIP	10K	5%	1/16W
R442	1-216-821-11	METAL CHIP	1K	5%	1/16W (TR96/TR916)
R442	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TR96/TR916)
R443	1-216-864-11	METAL CHIP	0	5%	1/16W
R444	1-216-864-11	METAL CHIP	0	5%	1/16W
R445	1-216-853-11	METAL CHIP	470K	5%	1/16W
R446	1-216-845-11	METAL CHIP	100K	5%	1/16W
R447	1-216-817-11	METAL CHIP	470	5%	1/16W
R448	1-216-822-11	METAL CHIP	1.2K	5%	1/16W

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description			Remarks
R449	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R450	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R451	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R452	1-216-857-11	METAL CHIP	1M	5%	1/16W
R453	1-216-833-11	METAL CHIP	10K	5%	1/16W
R454	1-216-851-11	METAL CHIP	330K	5%	1/16W
R455	1-216-821-11	METAL CHIP	1K	5%	1/16W
R456	1-218-911-11	METAL GLAZE	470K	0.50%	1/16W
R457	1-216-821-11	METAL CHIP	1K	5%	1/16W
R458	1-216-821-11	METAL CHIP	1K	5%	1/16W
R459	1-218-903-11	METAL GLAZE	220K	0.50%	1/16W
R460	1-216-864-11	METAL CHIP	0	5%	1/16W
R461	1-216-864-11	METAL CHIP	0	5%	1/16W
R462	1-216-853-11	METAL CHIP	470K	5%	1/16W
R463	1-216-821-11	METAL CHIP	1K	5%	1/16W
R464	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R465	1-216-821-11	METAL CHIP	1K	5%	1/16W
R467	1-216-821-11	METAL CHIP	1K	5%	1/16W
R468	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R469	1-216-853-11	METAL CHIP	470K	5%	1/16W
R470	1-216-853-11	METAL CHIP	470K	5%	1/16W
R471	1-216-853-11	METAL CHIP	470K	5%	1/16W
R473	1-216-853-11	METAL CHIP	470K	5%	1/16W
R474	1-216-853-11	METAL CHIP	470K	5%	1/16W
R475	1-216-833-11	METAL CHIP	10K	5%	1/16W
R476	1-216-833-11	METAL CHIP	10K	5%	1/16W
R477	1-216-833-11	METAL CHIP	10K	5%	1/16W
R478	1-216-833-11	METAL CHIP	10K	5%	1/16W
R479	1-216-833-11	METAL CHIP	10K	5%	1/16W
R480	1-216-845-11	METAL CHIP	100K	5%	1/16W
R481	1-216-833-11	METAL CHIP	10K	5%	1/16W (TR96/TR916)
R481	1-216-821-11	METAL CHIP	1K	5%	1/16W (EXCEPT TR96/TR916)
R482	1-216-845-11	METAL CHIP	100K	5%	1/16W
R483	1-216-833-11	METAL CHIP	10K	5%	1/16W (TR96/TR916)
R483	1-216-821-11	METAL CHIP	1K	5%	1/16W (EXCEPT TR96/TR916)
R484	1-216-821-11	METAL CHIP	1K	5%	1/16W
R486	1-216-821-11	METAL CHIP	1K	5%	1/16W
R487	1-216-821-11	METAL CHIP	1K	5%	1/16W
R488	1-216-821-11	METAL CHIP	1K	5%	1/16W
R489	1-216-821-11	METAL CHIP	1K	5%	1/16W
R490	1-216-821-11	METAL CHIP	1K	5%	1/16W
R491	1-216-821-11	METAL CHIP	1K	5%	1/16W
R492	1-216-841-11	METAL CHIP	47K	5%	1/16W
R493	1-216-841-11	METAL CHIP	47K	5%	1/16W
R494	1-216-821-11	METAL CHIP	1K	5%	1/16W
R495	1-216-841-11	METAL CHIP	47K	5%	1/16W
R496	1-216-864-11	METAL CHIP	0	5%	1/16W
R500	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R501	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R502	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R503	1-216-845-11	METAL CHIP	100K	5%	1/16W
R504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R505	1-216-809-11	METAL CHIP	100	5%	1/16W
R506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R507	1-216-817-11	METAL CHIP	470	5%	1/16W (TR96/TR916)
R507	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TR96/TR916)
R508	1-216-817-11	METAL CHIP	470	5%	1/16W (TR96/TR916)
R508	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TR96/TR916)
R509	1-216-821-11	METAL CHIP	1K	5%	1/16W
R510	1-216-817-11	METAL CHIP	470	5%	1/16W (TR96/TR916)
R510	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TR96/TR916)
R511	1-216-817-11	METAL CHIP	470	5%	1/16W (TR96/TR916)
R511	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TR96/TR916)
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W
R526	1-216-864-11	METAL CHIP	0	5%	1/16W
R527	1-216-864-11	METAL CHIP	0	5%	1/16W
R530	1-216-821-11	METAL CHIP	1K	5%	1/16W (TR86/TR96/TR506/TR507/TR916/TR503E/TR506E/TR720E/TR740E)
R534	1-216-864-11	METAL CHIP	0	5%	1/16W
R535	1-216-838-11	METAL CHIP	27K	5%	1/16W (TR501E/TR502E/TR620E)
R536	1-216-839-11	METAL CHIP	33K	5%	1/16W (TR501E/TR502E/TR620E)
		< SWITCH >			
S401	1-771-025-21	SWITCH, ROTARY (ENCODER) (MENU CONTOROL)			
S403	1-762-650-21	SWITCH, SLIDE (STEADY SHOT) (TR96/TR916/TR620E/TR720E/TR740E)			
S404	1-762-982-11	SWITCH, TACTILE (16:9 WIDE) (TR502E)			
S404	1-771-106-11	SWITCH, TACTILE (16:9 WIDE) (TR86/TR96/TR506/TR507/TR916/TR506E/TR620E/TR720E/TR740E)			
S405	1-762-982-11	SWITCH, TACTILE (COUNTER RESET) (TR502E)			
S405	1-771-106-11	SWITCH, TACTILE (COUNTER RESET) (EXCEPT TR502E)			
S406	1-762-982-11	SWITCH, TACTILE (TIME) (TR502E)			
S406	1-771-106-11	SWITCH, TACTILE (TIME) (EXCEPT TR502E)			
S408	1-762-982-11	SWITCH, TACTILE (DISPLAY)(TR502E)			
S408	1-771-106-11	SWITCH, TACTILE (DISPLAY)(EXCEPT TR502E)			
S409	1-762-982-11	SWITCH, TACTILE (FADER)			
S410	1-762-982-11	SWITCH, TACTILE (BACK LIGHT) (TR502E)			
S410	1-771-106-11	SWITCH, TACTILE (BACK LIGHT) (EXCEPT TR502E)			
S411	1-762-982-11	SWITCH, TACTILE (DATE) (TR502E)			
S411	1-771-106-11	SWITCH, TACTILE (DATE) (EXCEPT TR502E)			
S412	1-762-982-11	SWITCH, TACTILE (TITLE) (TR502E)			
S412	1-771-106-11	SWITCH, TACTILE (TITLE) (EXCEPT TR502E)			
S413	1-762-982-11	SWITCH, TACTILE (PICTURE EFFECT)(TR502E)			
S413	1-771-106-11	SWITCH, TACTILE (PICTURE EFFECT) (EXCEPT TR502E)			
S414	1-762-982-11	SWITCH, TACTILE (MENU) (TR502E)			
S414	1-771-106-11	SWITCH, TACTILE (MENU) (EXCEPT TR502E)			
S415	1-762-648-21	SWITCH, SLIDE (START/STOP MODE)			
S416	1-762-442-21	SWITCH, ROTARY (PROGRAM AE)			

Ref. No.	Part No.	Description			Remarks
		< VIBRATOR >			
X401	1-579-463-11	VIBRATOR, CRYSTAL 32kHz			
X402	1-579-369-21	VIBRATOR, 10MHz			
	A-7093-251-A	DD-94 BOARD, COMPLETE			
		**********			
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
	A-7093-253-A	DD-94 BOARD, COMPLETE (TR506/TR507)			
		**********			
	A-7093-252-A	DD-94 BOARD, COMPLETE (TR86/TR96/TR916)			
		**********			
					(Ref.No.1,000 Series)
		< BATTERY >			
BH001	1-537-241-11	TERMINAL BOARD (BATTERY)			
		< CAPACITOR >			
C001	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C002	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C003	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C004	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C005	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C006	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C007	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C008	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C009	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C010	1-128-004-11	ELECT CHIP	10uF	20%	16V
C011	1-126-395-11	ELECT	22uF	20%	16V
C013	1-128-065-11	ELECT	68uF	20%	10V
C014	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C016	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C018	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C019	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C022	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C024	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C025	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C026	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C027	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C028	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C029	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C031	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C032	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C033	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C034	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C035	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C036	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C037	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C038	1-126-607-11	ELECT CHIP	47uF	20%	4V
C039	1-164-346-11	CERAMIC CHIP	1uF		16V
C040	1-164-346-11	CERAMIC CHIP	1uF		16V
C041	1-164-346-11	CERAMIC CHIP	1uF		16V
C042	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C043	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C044	1-164-346-11	CERAMIC CHIP	1uF		16V
C045	1-126-395-11	ELECT	22uF	20%	16V
C046	1-128-006-11	ELECT CHIP	4.7uF	20%	25V
C049	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
					(TR86/TR96/TR916)

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
* CN003	1-691-935-11	CONNECTOR, BOARD TO BOARD 38P	
CN005	1-770-620-21	PIN, CONNECTOR 3P (TR86/TR96/TR916)	
		< DIODE >	
D001	8-719-989-33	DIODE FC806-TL	
D002	8-719-420-14	DIODE MA8082-TX	
		< FUSE >	
⚠F001	1-533-483-11	FUSE (SMD) 1.6A/125V (TR86/TR96/TR916)	
⚠F003	1-533-284-11	LINK, CHIP IC	
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
⚠F003	1-533-483-11	FUSE (SMD) 1.6A/125V	
		(TR86/TR96/TR506/TR507/TR916)	
⚠F004	1-533-284-11	LINK, CHIP IC	
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
⚠F004	1-533-483-11	FUSE (SMD) 1.6A/125V	
		(TR86/TR96/TR506/TR507/TR916)	
		< IC >	
IC001	8-759-350-29	IC SN104213PM-T6	
		< COIL >	
L002	1-416-193-11	COIL, CHOKE 10uH	
L004	1-416-193-11	COIL, CHOKE 10uH	
L005	1-416-194-11	COIL, CHOKE 47uH	
L006	1-416-194-11	COIL, CHOKE 47uH	
L007	1-411-705-11	COIL, CHOKE 22uH	
L008	1-416-194-11	COIL, CHOKE 47uH	
L009	1-411-705-11	COIL, CHOKE 22uH	
L010	1-412-056-11	INDUCTOR CHIP 4.7uH	
L011	1-412-056-11	INDUCTOR CHIP 4.7uH	
L012	1-412-056-11	INDUCTOR CHIP 4.7uH	
L013	1-412-056-11	INDUCTOR CHIP 4.7uH	
L014	1-412-064-11	INDUCTOR CHIP 100uH	
L015	1-412-064-11	INDUCTOR CHIP 100uH	
L016	1-412-056-11	INDUCTOR CHIP 4.7uH	
L017	1-412-056-11	INDUCTOR CHIP 4.7uH	
L018	1-412-056-11	INDUCTOR CHIP 4.7uH	
		< TRANSISTOR >	
Q001	8-729-033-14	TRANSISTOR FP107-TL	
Q002	8-729-033-14	TRANSISTOR FP107-TL	
Q003	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q004	8-729-033-14	TRANSISTOR FP107-TL	
Q005	8-729-033-14	TRANSISTOR FP107-TL	
Q006	8-729-033-14	TRANSISTOR FP107-TL	
Q007	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q008	8-729-402-42	TRANSISTOR UN5213-TX	
Q010	8-729-030-75	TRANSISTOR 2SK2316-TD	
			(TR86/TR96/TR916)
Q012	8-729-030-75	TRANSISTOR 2SK2316-TD	
			(TR86/TR96/TR916)
Q013	8-729-028-26	TRANSISTOR 2SK1829(TE85L)	
			(TR86/TR96/TR916)
Q014	8-729-402-42	TRANSISTOR UN5213-TX (TR86/TR96/TR916)	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R001	1-216-841-11	METAL CHIP	47K	5%	1/16W
R002	1-216-835-11	METAL CHIP	15K	5%	1/16W
R003	1-216-837-11	METAL CHIP	22K	5%	1/16W
R004	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R005	1-216-839-11	METAL CHIP	33K	5%	1/16W
R006	1-216-837-11	METAL CHIP	22K	5%	1/16W
R007	1-216-821-11	METAL CHIP	1K	5%	1/16W
R008	1-216-813-11	METAL CHIP	220	5%	1/16W
R009	1-216-841-11	METAL CHIP	47K	5%	1/16W
R010	1-216-845-11	METAL CHIP	100K	5%	1/16W
R013	1-216-864-11	METAL CHIP	0	5%	1/16W
R014	1-216-821-11	METAL CHIP	1K	5%	1/16W
R015	1-216-819-11	METAL CHIP	680	5%	1/16W
R016	1-216-864-11	METAL CHIP	0	5%	1/16W
R017	1-216-833-11	METAL CHIP	10K	5%	1/16W
R018	1-216-833-11	METAL CHIP	10K	5%	1/16W
R019	1-216-833-11	METAL CHIP	10K	5%	1/16W
R020	1-216-835-11	METAL CHIP	15K	5%	1/16W
R021	1-216-839-11	METAL CHIP	33K	5%	1/16W
R022	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R023	1-216-797-11	METAL CHIP	10	5%	1/16W
R024	1-216-837-11	METAL CHIP	22K	5%	1/16W
R025	1-216-841-11	METAL CHIP	47K	5%	1/16W
R027	1-216-833-11	METAL CHIP	10K	5%	1/16W
R028	1-216-857-11	METAL CHIP	1M	5%	1/16W
					(TR86/TR96/TR916)
R029	1-216-856-11	METAL CHIP	820K	5%	1/16W
					(TR86/TR96/TR916)
R031	1-216-848-11	METAL CHIP	180K	5%	1/16W
					(TR86/TR96/TR916)
R033	1-216-833-11	METAL CHIP	10K	5%	1/16W
R036	1-216-833-11	METAL CHIP	10K	5%	1/16W
					(TR86/TR96/TR916)
R037	1-216-833-11	METAL CHIP	10K	5%	1/16W
R038	1-216-833-11	METAL CHIP	10K	5%	1/16W
R040	1-216-864-11	METAL CHIP	0	5%	1/16W
R041	1-216-864-11	METAL CHIP	0	5%	1/16W
R042	1-216-839-11	METAL CHIP	33K	5%	1/16W
					(TR86/TR96/TR916)
R045	1-218-915-11	METAL GLAZE	680K	0.50%	1/16W
R046	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S001	1-771-039-11	SWITCH, PUSH (START/STOP)			
S002	1-572-467-21	SWITCH, PUSH (1 KEY) (EJECT)			
S004	1-771-039-11	SWITCH, PUSH (STANDBY)			
		< TRANSFORMER >			
⚠T001	1-431-246-21	TRANSFORMER, DC/DC CONVERTER			
		FP-249 BOARD, COMPLETE			
		**********			
					(Ref.No.5,000 Series)
	1-658-214-11	FP-356 FLEXIBLE PRINT BOARD			
	3-965-551-01	HOLDER (S), SENSOR			
	3-965-552-01	HOLDER (T), SENSOR			

Ref. No.	Part No.	Description			Remarks
		< HOLE ELEMENT >			
H001	8-719-033-37	ELEMENT, HALL HW-105C			
H002	8-719-033-37	ELEMENT, HALL HW-105C			
		< TRANSISTOR >			
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F			
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F			
		< SWITCH >			
S001	1-692-614-11	SWITCH, PUSH (3 KEY)(REC PROOF)			
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)			
		FP-355 BOARD, COMPLETE			
		**********			
					(Ref.No.5,000 Series)
	1-658-213-11	FP-355 FLEXIBLE PRINT BOARD			
		< DIODE >			
D001	8-719-988-42	DIODE GL453			
	A-7073-142-A	IR-28 BOARD, COMPLETE (TR740E)			
		**********			
	A-7073-091-A	IR-28 BOARD, COMPLETE			
		**********			
					(TR86/TR96/TR507/TR916)
					(Ref.No.1,000 Series)
		< CAPACITOR >			
C001	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C002	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C003	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C004	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C005	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C006	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C008	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C009	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C010	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C011	1-164-668-11	CERAMIC CHIP	510PF	5%	50V
C012	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C013	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C014	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C015	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C017	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C018	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
C019	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C020	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C022	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C023	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C026	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C029	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C030	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Note :
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Replace only with part number specified.

Note :
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Ref. No.	Part No.	Description			Remarks
C031	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C033	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C036	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C037	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C038	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C039	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
		< CONNECTOR >			
* CN001	1-691-922-11	CONNECTOR, BOARD TO BOARD 14P			
		< IC >			
IC001	8-759-455-09	IC LA9510W-TBM			
		< COIL >			
L002	1-412-948-11	INDUCTOR 5.6uH			
L003	1-414-754-11	INDUCTOR 10uH			
L004	1-412-957-11	INDUCTOR 33uH			
L005	1-412-957-11	INDUCTOR 33uH			
		< TRANSISTOR >			
Q006	8-729-122-63	TRANSISTOR 2SA1226-T1E3E4			
Q007	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
		< RESISTOR >			
R002	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R004	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R005	1-216-818-11	METAL CHIP	560	5%	1/16W
R006	1-216-817-11	METAL CHIP	470	5%	1/16W
R007	1-216-817-11	METAL CHIP	470	5%	1/16W
R008	1-216-041-00	METAL CHIP	470	5%	1/10W
R009	1-216-864-11	METAL CHIP	0	5%	1/16W
R013	1-216-864-11	METAL CHIP	0	5%	1/16W
R015	1-216-817-11	METAL CHIP	470	5%	1/16W
R016	1-216-821-11	METAL CHIP	1K	5%	1/16W
R017	1-216-815-11	METAL CHIP	330	5%	1/16W
R019	1-216-864-11	METAL CHIP	0	5%	1/16W
R020	1-216-833-11	METAL CHIP	10K	5%	1/16W
R021	1-216-841-11	METAL CHIP	47K	5%	1/16W
R022	1-216-833-11	METAL CHIP	10K	5%	1/16W
R023	1-216-841-11	METAL CHIP	47K	5%	1/16W
R024	1-216-853-11	METAL CHIP	470K	5%	1/16W
R033	1-216-837-11	METAL CHIP	22K	5%	1/16W
R034	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R035	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R036	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R039	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R041	1-216-833-11	METAL CHIP	10K	5%	1/16W
R043	1-216-847-11	METAL CHIP	150K	5%	1/16W
R044	1-216-847-11	METAL CHIP	150K	5%	1/16W
R046	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description	Remarks
	A-7073-076-A	JK-153 BOARD, COMPLETE	
		**********	
			(TR501E:AEP/TR502E/TR620E)
	A-7073-071-A	JK-153 BOARD, COMPLETE (TR501E:E/TR503E)	
		**********	
	A-7073-125-A	JK-153 BOARD, COMPLETE	
		**********	
			(TR506/TR507/TR506E/TR720E/TR740E)
	A-7073-082-A	JK-153 BOARD, COMPLETE	
		**********	
			(TR86/TR96/TR916)
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C061	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
			(TR501E:AEP/TR502E/TR620E)
C062	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
			(TR501E:AEP/TR502E/TR620E)
C065	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
		< CONNECTOR >	
CN060	1-764-680-21	CONNECTOR, FFC/FPC (ZIF) 8P	
		< DIODE >	
D062	8-719-059-57	DIODE MAZJ082DFLSO	
		(TR506/TR507/TR506E/TR720E/TR740E)	
D063	8-719-059-57	DIODE MAZJ082DFLSO	
D064	8-719-420-14	DIODE MA8082-TX (TR86/TR96/TR916)	
D069	8-719-059-57	DIODE MAZJ082DFLSO	
		< JACK >	
J060	1-537-415-11	TERMINAL BOARD (VIDEO/AUDIO OUT)	
			(TR506/TR507/TR506E/TR720E/TR740E)
J060	1-537-726-11	TERMINAL BOARD (VIDEO/AUDIO OUT)	
	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)		
		< COIL >	
L061	1-414-757-11	INDUCTOR 100uH	
			(TR501E:AEP/TR502E/TR620E)
L061	1-216-295-91	CONDUCTOR, CHIP (2012)	
		(TR86/TR96/TR506/TR507/TR916/TR501E:E/	
			TR503E/TR506E/TR720E/TR740E)
L062	1-216-295-91	CONDUCTOR, CHIP (2012)	
			(TR506/TR507/TR506E/TR720E/TR740E)
		< RESISTOR >	
R060	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
			(TR86/TR96/TR916)
R061	1-216-864-11	METAL CHIP 0 5% 1/16W	
R064	1-414-228-11	INDUCTOR, FERRITE BEAD	
		< SWITCH >	
S060	1-762-648-21	SWITCH, SLIDE (LIGHT)(TR86/TR96/TR916)	

Ref. No.	Part No.	Description			Remarks
	A-7073-090-A	LB-49 BOARD, COMPLETE			
		**********			
					(TR503E/TR506E/TR720E/TR740E)
	A-7073-086-A	LB-49 BOARD, COMPLETE			
		**********			
					(TR86/TR96/TR506/TR507/TR916)
					(Ref.No.7,000 Series)
		< CAPACITOR >			
C801	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C802	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C805	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C806	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
		< CONNECTOR >			
CN801	1-779-383-11	CONNECTOR, BOARD TO BOARD 10P			
		< DIODE >			
D802	8-719-056-49	DIODE 1SS370(TE85L)			
		< COIL >			
L801	1-412-033-11	INDUCTOR CHIP 220uH			
L802	1-412-029-11	INDUCTOR CHIP 10uH			
		< FLUORECENT INDICATOR >			
⚠ND801	1-517-325-11	LANP, FLUORESCENT (0.55 INCH)			
		< TRANSISTOR >			
Q801	8-729-024-60	TRANSISTOR MTD6N15T4			
		< RESISTOR >			
R801	1-216-809-11	METAL CHIP	100	5%	1/16W
R802	1-216-839-11	METAL CHIP	33K	5%	1/16W
		< TRANSFORMER >			
⚠T801	1-429-756-21	TRANSFORMER, INVERTER			

Ref. No.	Part No.	Description	Remarks
	A-7073-073-A	MA-295 BOARD, COMPLETE	
		**********	
			(TR501E/TR502E/TR503E/TR620E)
	A-7073-126-A	MA-295 BOARD, COMPLETE	
		**********	
			(TR506/TR506E/TR720E)
	A-7073-140-A	MA-295 BOARD, COMPLETE (TR507/TR740E)	
		**********	
	A-7073-079-A	MA-295 BOARD, COMPLETE (TR86/TR96/TR916)	
		**********	
			(Ref.No.2,000 Series)
		< CAPACITOR >	
C953	1-164-172-11	CERAMIC CHIP 0.0056uF 10% 25V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C954	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C955	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C956	1-115-156-11	CERAMIC CHIP 1uF 10V	
			(TR86/TR96/TR507/TR916/TR740E)
C957	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C958	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C959	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C960	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C961	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C962	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C963	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C964	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C966	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR86/TR96/TR507/TR916/TR740E)
C969	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C970	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C972	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C973	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C974	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C975	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C977	1-164-172-11	CERAMIC CHIP 0.0056uF 10% 25V	
			(TR506/TR507/TR506E/TR720E/TR740E)
C978	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C980	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
			(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C982	1-165-128-11	CERAMIC CHIP 0.22uF 16V	
			(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C983	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
			(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C984	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
			(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)

Note :
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Replace only with part number specified.

Note :
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Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
C985	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C986	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C988	1-164-346-11	CERAMIC CHIP 1uF 16V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C990	1-124-779-00	ELECT CHIP 10uF 20% 16V	(TR506/TR507/TR506E/TR720E/TR740E)
C990	1-126-607-11	ELECT CHIP 47uF 20% 4V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C991	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C993	1-124-779-00	ELECT CHIP 10uF 20% 16V	
C994	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR506/TR507/TR506E/TR720E/TR740E)
C995	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR506/TR507/TR506E/TR720E/TR740E)
C996	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR506/TR507/TR506E/TR720E/TR740E)
C997	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(TR506/TR507/TR506E/TR720E/TR740E)
C998	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR506/TR507/TR506E/TR720E/TR740E)
C999	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(TR506/TR507/TR506E/TR720E/TR740E)
		< CONNECTOR >	
CN951	1-764-711-21	CONNECTOR, FFC/FPC (LIF) 12P	
CN952	1-580-055-21	PIN, CONNECTOR 2P	(TR506/TR507/TR506E/TR720E/TR740E)
CN953	1-580-055-21	PIN, CONNECTOR 2P	
		< DIODE >	
D952	8-719-059-51	DIODE MA3J142E0LSO	
D955	8-719-061-86	DIODE DCR2810	(TR86/TR96/TR507/TR916/TR740E)
D956	8-749-060-65	DIODE DCC3810	(TR86/TR96/TR507/TR916/TR740E)
		< FUSE >	
⚠F951	1-533-844-11	FUSE,MICRO	(TR86/TR96/TR507/TR916/TR740E)
		< FERRITE BEAD >	
FB901	1-414-228-11	INDUCTOR, FERRITE BEAD	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
FB902	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
		< IC >	
IC951	8-759-380-80	IC LA7473V-TLM	(TR506/TR507/TR506E/TR720E/TR740E)
IC952	8-759-339-63	IC NJM2118V-TE2	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
IC953	8-749-012-17	IC RS-140-T	
		< JACK >	
J951	1-691-737-11	JACK, SMALL TYPE (MIC)	(TR506/TR507/TR506E/TR720E/TR740E)
J951	1-568-027-11	JACK, SMALL TYPE (MIC)	

Ref. No.	Part No.	Description	Remarks
			(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
		< TRANSISTOR >	
Q951	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
Q954	8-729-140-75	TRANSISTOR 2SD999-T1-CLCK	(TR86/TR96/TR507/TR916/TR740E)
		< RESISTOR >	
R953	1-414-228-11	INDUCTOR, FERRITE BEAD	(TR506/TR507/TR506E/TR720E/TR740E)
R954	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R955	1-414-228-11	INDUCTOR, FERRITE BEAD	
R956	1-414-228-11	INDUCTOR, FERRITE BEAD	
R957	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R958	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R959	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R960	1-216-311-00	METAL CHIP 6.8 5% 1/10W	(TR86/TR96/TR507/TR916/TR740E)
R961	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R962	1-216-839-11	METAL CHIP 33K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R963	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R964	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R965	1-216-839-11	METAL CHIP 33K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R966	1-216-302-00	METAL CHIP 2.7 5% 1/10W	(TR86/TR96/TR507/TR916/TR740E)
R967	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R968	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R969	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R970	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R973	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R975	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R976	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R978	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R979	1-216-818-11	METAL CHIP 560 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R980	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R981	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R982	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R983	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
R986	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R989	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)

Note :
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Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description	Remarks
R990	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R991	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R992	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R993	1-216-838-11	METAL CHIP 27K 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R995	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R996	1-216-864-11	METAL CHIP 0 5% 1/16W	(TR506/TR507/TR506E/TR720E/TR740E)
R997	1-216-809-11	METAL CHIP 100 5% 1/16W	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
		< SWITCH >	
S951	1-771-039-11	SWITCH, PUSH (CAMERA)	
S952	1-771-039-11	SWITCH, PUSH (PLAYER)	
	A-7073-145-A	SE-60 BOARD, COMPLETE **********	(TR620E/TR720E/TR740E)
	A-7073-129-A	SE-60 BOARD, COMPLETE (TR86) **********	
	A-7073-087-A	SE-60 BOARD, COMPLETE (TR96/TR916) **********	(Ref.No.5,000 Series)
	3-974-199-01	TERMINAL, VIDEO (LIGHT)	(TR86/TR96/TR916)
		< CAPACITOR >	
C650	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C651	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C652	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	(TR96/TR916/TR620E/TR720E/TR740E)
C653	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	(TR96/TR916/TR620E/TR720E/TR740E)
C654	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR96/TR916/TR620E/TR720E/TR740E)
C655	1-164-156-11	CERAMIC CHIP 0.1uF 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C656	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C657	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C658	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C659	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C660	1-128-257-21	ELECT CHIP 33uF 20% 10V	(TR96/TR916/TR620E/TR720E/TR740E)
C661	1-128-257-21	ELECT CHIP 33uF 20% 10V	(TR96/TR916/TR620E/TR720E/TR740E)
C663	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TR96/TR916/TR620E/TR720E/TR740E)
C664	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TR96/TR916/TR620E/TR720E/TR740E)
C665	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V	(TR96/TR916/TR620E/TR720E/TR740E)
C666	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V	(TR96/TR916/TR620E/TR720E/TR740E)
C667	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR96/TR916/TR620E/TR720E/TR740E)
C668	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	(TR96/TR916/TR620E/TR720E/TR740E)
		< CONNECTOR >	
CN650	1-764-516-21	CONNECTOR, FFC/FPC (ZIF) 6P	(TR96/TR916/TR620E/TR720E/TR740E)
CN651	1-770-620-21	PIN, CONNECTOR 3P	(TR86/TR96/TR916)
		< DIODE >	
D650	8-719-404-49	DIODE MA111-TX	(TR86/TR96/TR916)
D651	8-719-420-14	DIODE MA8082-TX	(TR86/TR96/TR916)
D652	8-719-420-14	DIODE MA8082-TX	(TR86/TR96/TR916)
		< IC >	
IC650	8-759-080-34	IC TA75W01FU-TE12R	(TR96/TR916/TR620E/TR720E/TR740E)
IC651	8-759-388-62	IC NJU7062M(TE2)	(TR96/TR916/TR620E/TR720E/TR740E)
IC652	8-759-391-88	IC MC14066BDTR2	(TR96/TR916/TR620E/TR720E/TR740E)
		< COIL >	
L601	1-414-754-11	INDUCTOR 10uH	(TR96/TR916/TR620E/TR720E/TR740E)
		< TRANSISTOR >	
Q650	8-729-402-42	TRANSISTOR UN5213-TX	(TR96/TR916/TR620E/TR720E/TR740E)
		< RESISTOR >	
R650	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R651	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R652	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R653	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R654	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R655	1-216-837-11	METAL CHIP 22K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R656	1-216-803-11	METAL CHIP 33 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R658	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R659	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R660	1-218-911-11	METAL GLAZE 470K 0.50% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R661	1-218-911-11	METAL GLAZE 470K 0.50% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R664	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R665	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R666	1-216-857-11	METAL CHIP 1M 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)

Ref. No.	Part No.	Description	Remarks
R667	1-216-833-11	METAL CHIP 10K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R668	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R669	1-216-835-11	METAL CHIP 15K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
R670	1-216-845-11	METAL CHIP 100K 5% 1/16W	(TR96/TR916/TR620E/TR720E/TR740E)
		< SENSOR >	
SE650	1-810-725-81	SENSOR, ANGULAR VELOCITY	(TR96/TR916/TR620E/TR720E/TR740E)
SE651	1-810-725-71	SENSOR, ANGULAR VELOCITY	(TR96/TR916/TR620E/TR720E/TR740E)
	A-7093-241-A	VC-188 BOARD, COMPLETE (TR501E/TR503E)	
	A-7093-242-A	VC-188 BOARD, COMPLETE (TR502E)	
	A-7093-244-A	VC-188 BOARD, COMPLETE (TR506)	
	A-7093-245-A	VC-188 BOARD, COMPLETE (TR506E)	
	A-7093-246-A	VC-188 BOARD, COMPLETE (TR507)	
	A-7093-247-A	VC-188 BOARD, COMPLETE (TR620E)	
	A-7093-290-A	VC-188 BOARD, COMPLETE (TR720E)	
	A-7093-250-A	VC-188 BOARD, COMPLETE (TR740E)	
	A-7093-243-A	VC-188 BOARD, COMPLETE (TR86)	
	A-7093-249-A	VC-188 BOARD, COMPLETE (TR96/TR916)	
			(Ref.No.1,000 Series)
		< CAPACITOR >	
C101	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	(TR86/TR96/TR506/TR507/TR916)
C102	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	(TR86/TR96/TR506/TR507/TR916)
C103	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C104	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C105	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C106	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C107	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C108	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C109	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V	
C110	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C111	1-164-217-11	CERAMIC CHIP 150PF 5% 50V	
C112	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C113	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
C114	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C115	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C116	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C117	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C118	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C119	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C120	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C121	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C122	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C123	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C124	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C125	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C126	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C127	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C128	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C129	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	(TR86/TR96/TR506/TR507/TR916)
C130	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C131	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C132	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C133	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C134	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C136	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C138	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C139	1-162-961-11	CERAMIC CHIP 330PF 10% 50V	
C140	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C141	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C142	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C143	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C144	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C145	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C146	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C147	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C148	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C149	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C150	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C151	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C152	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C155	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C156	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C157	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C158	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C159	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C160	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C161	1-162-922-11	CERAMIC CHIP 39PF 5% 50V	
C162	1-162-912-11	CERAMIC CHIP 7PF 0.5PF 50V	(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
C162	1-162-917-11	CERAMIC CHIP 15PF 5% 50V	(TR86/TR96/TR506/TR507/TR916)
C164	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C165	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C166	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C167	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C168	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	(TR506/TR507/TR506E/TR720E/TR740E)
C168	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C169	1-162-923-11	CERAMIC CHIP 47PF 5% 50V	
C170	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C171	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C172	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C173	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C174	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	

Ref. No.	Part No.	Description			Remarks
C176	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C177	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C178	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C179	1-164-237-11	CERAMIC CHIP	16PF	5%	50V
C180	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C181	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C182	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C203	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
C204	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C205	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C206	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C207	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C208	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C209	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C210	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C211	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C212	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C213	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C214	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C215	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C216	1-126-246-11	ELECT CHIP	220uF	20%	4V
C217	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C219	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C220	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C221	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C223	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C224	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C225	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C225	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
		(TR86/TR96/TR506/TR507/TR916)			
C226	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C227	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C228	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
		(TR620E/TR720E/TR740E)			
C229	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C230	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C231	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C232	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C233	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C234	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C235	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C236	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C237	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C237	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C238	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C238	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
		(TR86/TR96/TR506/TR507/TR916)			
C240	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C242	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C243	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C243	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C244	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			

Ref. No.	Part No.	Description			Remarks
C244	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C245	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C245	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C246	1-135-073-00	TANTALUM CHIP	0.33uF	10%	35V
C247	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C248	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C249	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C254	1-164-237-11	CERAMIC CHIP	16PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C254	1-162-975-11	CERAMIC CHIP	24PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C256	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C257	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C259	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C263	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E)			
C265	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E)			
C266	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR501E/TR502E/TR503E/TR506E)			
C267	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C267	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C268	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C269	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C270	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C271	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C274	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		(TR86/TR96/TR507/TR916/TR740E)			
C275	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C276	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C277	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C278	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C279	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C280	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C302	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C303	1-115-156-11	CERAMIC CHIP	1uF		10V
C304	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C305	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C307	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C309	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C400	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C402	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C403	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C404	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C405	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C406	1-115-156-11	CERAMIC CHIP	1uF		10V
C407	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C408	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C409	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C410	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C412	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C413	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			

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Ref. No.	Part No.	Description			Remarks
C414	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C415	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C416	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C417	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C418	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C421	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C423	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C424	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C425	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C426	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C427	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C428	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C429	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C430	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C431	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C432	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C433	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C434	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C435	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C436	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C437	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C438	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C439	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C441	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C442	1-165-112-11	CERAMIC CHIP	0.33uF		16V
C443	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C444	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C445	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C446	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C447	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C448	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C449	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C450	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C451	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C452	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C453	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C456	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C458	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C459	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C502	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TR506/TR507/TR506E/TR720E/TR740E)
C504	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C505	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C506	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (TR506/TR507/TR506E/TR740E)
C507	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TR506/TR507/TR506E/TR720E/TR740E)
C508	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C509	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TR506/TR507/TR506E/TR720E/TR740E)
C509	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C510	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C511	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (TR506/TR507/TR506E/TR740E)
C512	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (TR506/TR507/TR506E/TR720E/TR740E)

Ref. No.	Part No.	Description			Remarks
C513	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C514	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C515	1-162-960-11	CERAMIC CHIP	220PF	10%	50V (TR501E/TR502E/TR503E/TR620E)
C515	1-162-957-11	CERAMIC CHIP	220PF	5%	50V (TR86/TR96/TR916)
C516	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C517	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TR506/TR507/TR506E/TR720E/TR740E)
C518	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C520	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C522	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (TR506/TR507/TR506E/TR720E/TR740E)
C522	1-162-963-11	CERAMIC CHIP	680PF	10%	50V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C523	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C529	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C530	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TR506/TR507/TR506E/TR720E/TR740E)
C531	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C532	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C533	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C534	1-164-232-11	CERAMIC CHIP	0.01uF		50V (TR506/TR507/TR506E/TR720E/TR740E)
C534	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C535	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V (TR506/TR507/TR506E/TR720E/TR740E)
C535	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C537	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C539	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TR506/TR507/TR506E/TR720E/TR740E)
C541	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C541	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C542	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (TR506/TR507/TR506E/TR720E/TR740E)
C543	1-104-908-11	TANTAL. CHIP	47uF	20%	4V (TR506/TR507/TR506E/TR720E/TR740E)
C543	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C544	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C546	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C548	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TR506/TR507/TR506E/TR720E/TR740E)
C548	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C550	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)
C550	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C551	1-216-841-11	METAL CHIP	47K	5%	1/16W (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C553	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (TR506/TR507/TR506E/TR720E/TR740E)
C554	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C555	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
C556	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V (TR506/TR507/TR506E/TR720E/TR740E)

Ref. No.	Part No.	Description			Remarks
C556	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
C557	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR506/TR507/TR506E/TR720E/TR740E)			
C557	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
C558	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
		(TR506/TR507/TR506E/TR720E/TR740E)			
C558	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
C561	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C563	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		(TR506/TR507/TR506E/TR720E/TR740E)			
C571	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C572	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C573	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C574	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C575	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C576	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C577	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C578	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C603	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C604	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C605	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C606	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C607	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C608	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C610	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C611	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C612	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C613	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C614	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C615	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C616	1-115-156-11	CERAMIC CHIP	1uF		10V
C618	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C619	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C620	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C621	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C701	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C704	1-115-156-11	CERAMIC CHIP	1uF		10V
C705	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C706	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C712	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C714	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C715	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C717	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C718	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C719	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C722	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C725	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C726	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C727	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C728	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C729	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C732	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C734	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C735	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C736	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C739	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
		(TR620E/TR720E/TR740E)			
C739	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
		(TR501E/TR502E/TR503E/TR506E)			
C740	1-164-315-11	CERAMIC CHIP	470PF	2%	50V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C741	1-107-688-11	TANTAL. CHIP	1.5uF	20%	10V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C742	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
C745	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C746	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C748	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR86/TR506/TR507/TR502E/TR506E)			
C750	1-115-156-11	CERAMIC CHIP	1uF		10V
C751	1-164-346-11	CERAMIC CHIP	1uF		16V
C752	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C753	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C754	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C755	1-164-346-11	CERAMIC CHIP	1uF		16V
C757	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C758	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C759	1-115-156-11	CERAMIC CHIP	1uF		10V
C764	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C765	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
		(TR86/TR96/TR506/TR507/TR916)			
C770	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
				(EXCEPT TR502E)	
C771	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
				(EXCEPT TR502E)	
C772	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C773	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C774	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C775	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C776	1-216-818-11	METAL CHIP	560	5%	1/16W
		(TR96/TR916/TR620E/TR720E/TR740E)			
C776	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
C777	1-216-818-11	METAL CHIP	560	5%	1/16W
		(TR96/TR916/TR620E/TR720E/TR740E)			
C777	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
C778	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
				(EXCEPT TR502E)	
C779	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
				(EXCEPT TR502E)	
C780	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
				(EXCEPT TR502E)	
C781	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
				(TR96/TR916/TR720E)	
C781	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR86/TR506/TR507/TR502E/TR506E/TR620E/TR740E)			

Ref. No.	Part No.	Description	Remarks
C782	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >	
CN101	1-766-346-21	CONNECTOR, FFC/FPC 16P	
CN102	1-766-869-21	CONNECTOR, FFC/FPC 9P	
CN301	1-774-054-21	CONNECTOR, FFC/FPC (ZIF) 45P	
* CN302	1-691-931-11	CONNECTOR, BOARD TO BOARD 38P	
CN303	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN304	1-573-522-21	CONNECTOR, BOARD TO BOARD 14P (TR86/TR96/TR507/TR916/TR740E)	
CN400	1-774-635-21	CONNECTOR, FFC/FPC 10P	
CN401	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN402	1-774-639-21	CONNECTOR, FFC/FPC 15P	
CN403	1-766-644-21	CONNECTOR, FFC/FPC 8P	
CN501	1-750-076-21	CONNECTOR, FFC/FPC 12P	
CN601	1-764-530-21	CONNECTOR, FFC/FPC (ZIF) 23P	
CN701	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P	
CN702	1-766-336-21	CONNECTOR, FFC/FPC 6P (TR96/TR916/TR620E/TR720E/TR740E)	
		< DIODE >	
D101	8-719-404-49	DIODE MA111-TX	
D102	8-719-820-41	DIODE 1SS302-TE85L	
D103	8-719-059-51	DIODE MA3J142E0LSO	
D201	8-719-059-51	DIODE MA3J142E0LSO	
D202	8-719-404-49	DIODE MA111-TX (TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
D203	8-719-404-49	DIODE MA111-TX	
D204	8-719-059-51	DIODE MA3J142E0LSO	
D301	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D302	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D303	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D304	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D305	8-719-061-81	DIODE TLYU1002(TPX1,SONY)	
D306	8-719-061-82	DIODE TLSU1002(TPX1,SONY) (TR86/TR96/TR507/TR916/TR740E)	
D307	8-719-404-49	DIODE MA111-TX	
D705	8-719-002-81	DIODE 1T363-01-T8A (TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
D706	8-713-102-28	DIODE 1T379-04-T8A	
		< FERRITE BEAD >	
FB301	1-414-385-11	INDUCTOR, FERRITE BEAD	
FB601	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB701	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB702	1-414-228-11	INDUCTOR, FERRITE BEAD (TR96/TR916)	
FB703	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB704	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB705	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB706	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB707	1-414-228-11	INDUCTOR, FERRITE BEAD	
FB708	1-414-228-11	INDUCTOR, FERRITE BEAD	
		< IC >	
IC101	8-752-071-15	IC CXA1702AR-T6	
IC201	8-752-075-45	IC CXA2051R-T6	
IC202	8-759-035-90	IC TC7S02F(TE85R)	
IC205	8-759-295-66	IC BA7653AF-E2	
IC206	8-759-295-66	IC BA7653AF-E2	
IC302	8-759-290-12	IC M62370GP-650D	
IC303	8-759-449-47	IC uPD6466GS-610-GLG-E2	
IC304	8-759-391-88	IC MC14066BDTR2	
IC400	8-752-880-05	IC CXP87460-011R	
IC401	8-759-445-93	IC AK6440AM-E2	
IC402	8-759-356-30	IC XR1083ACQ-E2	
IC403	8-759-327-67	IC LB1950V-TLM	
IC404	8-759-327-61	IC LB8112V-TLM	
IC405	8-759-234-20	IC TC7S08F(TE85R) (TR506/TR507/TR506E/TR720E/TR740E)	
IC501	8-759-368-08	IC AN2980FH-EB (TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)	
IC570	8-759-334-09	IC CXA2003N-T4 (TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
IC601	8-759-337-40	IC NJM2904V(TE2)	
IC602	8-759-444-87	IC NJM324V(TE2)	
IC603	8-759-365-18	IC uPD16833G3-E2 (TR506/TR507/TR501E/TR502E/TR503E/TR506E/TR620E/TR740E)	
IC603	8-759-351-46	IC MPC17A34RVMEL (TR86/TR96/TR916/TR720E)	
IC604	8-759-371-59	IC CF45853APW-E10	
IC702	8-752-384-74	IC CXD2486R-T4	
IC703	8-752-078-86	IC CXA2056Q-T4	
IC704	8-759-459-28	IC ADS932Y/T2	
IC705	8-752-374-02	IC CXD2418R-T4	
IC706	8-759-440-38	IC CXD8562AR-TEB (TR96/TR916/TR620E/TR720E/TR740E)	
IC706	8-752-379-66	IC CXD2180AR-T6 (TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)	
IC707	8-759-446-62	IC HG51D267FGTL (EXCEPT TR502E)	
IC709	8-759-198-34	IC TA75S558F(TE85R) (TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)	
		< COIL >	
L101	1-412-066-21	INDUCTOR CHIP 220uH	
L102	1-412-185-11	INDUCTOR 12uH	
L103	1-412-066-21	INDUCTOR CHIP 220uH	
L104	1-414-754-11	INDUCTOR 10uH	
L105	1-412-950-11	INDUCTOR 8.2uH	
L106	1-412-957-11	INDUCTOR 33uH	
L107	1-410-658-31	INDUCTOR CHIP 220uH	
L108	1-412-280-31	INDUCTOR 330uH	
L109	1-412-282-41	INDUCTOR 470uH	
L110	1-410-655-31	INDUCTOR CHIP 120uH	
L111	1-412-355-41	INDUCTOR 180uH	
L112	1-412-355-41	INDUCTOR 180uH	
L113	1-412-957-11	INDUCTOR 33uH	
L114	1-414-373-31	INDUCTOR CHIP 10uH	
L115	1-414-754-11	INDUCTOR 10uH	
L202	1-414-757-11	INDUCTOR 100uH	
L203	1-412-962-11	INDUCTOR 82uH	
L205	1-412-955-11	INDUCTOR 22uH (TR86/TR96/TR506/TR507/TR916)	
L207	1-412-962-11	INDUCTOR 82uH	
L210	1-412-951-11	INDUCTOR 10uH	

Ref. No.	Part No.	Description	Remarks
			(TR501E/TR502E/TR503E/TR506E)
L211	1-414-754-11	INDUCTOR 10uH	
L212	1-414-755-11	INDUCTOR 22uH	
L213	1-414-196-41	INDUCTOR 47uH	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
L213	1-414-170-41	INDUCTOR 100uH	
			(TR86/TR96/TR506/TR507/TR916)
L214	1-414-753-91	INDUCTOR 4.7uH	
L215	1-412-962-11	INDUCTOR 82uH	
L216	1-414-170-41	INDUCTOR 100uH	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
L301	1-414-754-11	INDUCTOR 10uH	
L303	1-414-754-11	INDUCTOR 10uH	
L304	1-414-754-11	INDUCTOR 10uH	
L305	1-411-165-21	COIL, OSC	
L400	1-414-754-11	INDUCTOR 10uH	
L401	1-412-951-11	INDUCTOR 10uH	
L402	1-216-295-91	CONDUCTOR, CHIP (2012)	
L570	1-414-754-11	INDUCTOR 10uH	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
L601	1-414-398-11	INDUCTOR 10uH	
L602	1-414-754-11	INDUCTOR 10uH	
L706	1-414-754-11	INDUCTOR 10uH	
L715	1-414-754-11	INDUCTOR 10uH	
L717	1-414-754-11	INDUCTOR 10uH	
L751	1-414-754-11	INDUCTOR 10uH	
L752	1-412-959-11	INDUCTOR 47uH	
			(TR86/TR96/TR506/TR507/TR916)
L753	1-412-959-11	INDUCTOR 47uH	
			(TR86/TR96/TR506/TR507/TR916)
L754	1-414-754-11	INDUCTOR 10uH (EXCEPT TR502E)	
		< TRANSISTOR >	
Q101	8-729-824-02	TRANSISTOR 2SA1838-TL	
Q102	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q103	8-729-823-86	TRANSISTOR 2SA1745-TL	
			(TR86/TR96/TR506/TR507/TR916)
Q104	8-729-823-86	TRANSISTOR 2SA1745-TL	
Q105	8-729-823-86	TRANSISTOR 2SA1745-TL	
Q106	8-729-823-86	TRANSISTOR 2SA1745-TL	
			(TR86/TR96/TR506/TR507/TR916)
Q107	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q108	8-729-402-42	TRANSISTOR UN5213-TX	
			(TR86/TR96/TR506/TR507/TR916)
Q109	8-729-402-42	TRANSISTOR UN5213-TX	
			(TR86/TR96/TR506/TR507/TR916)
Q110	8-729-402-42	TRANSISTOR UN5213-TX	
Q111	8-729-402-42	TRANSISTOR UN5213-TX	
Q112	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q113	8-729-402-42	TRANSISTOR UN5213-TX	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
Q114	8-729-402-42	TRANSISTOR UN5213-TX	
Q115	8-729-402-42	TRANSISTOR UN5213-TX	
Q116	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q117	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q118	8-729-012-50	TRANSISTOR 2SC4400-3/4/5-TL	
Q119	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q121	8-729-015-74	TRANSISTOR UN5111-TX	
Q122	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1	
Q123	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q202	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q206	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q208	8-729-402-42	TRANSISTOR UN5213-TX	
Q211	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
			(TR86/TR96/TR506/TR507/TR916)
Q213	8-729-402-42	TRANSISTOR UN5213-TX	
Q214	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q215	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q216	8-729-420-20	TRANSISTOR XN4312-TW	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
Q217	8-729-420-12	TRANSISTOR XN4213-TW	
Q218	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q219	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q221	8-729-402-42	TRANSISTOR UN5213-TX	
Q222	8-729-402-42	TRANSISTOR UN5213-TX	
Q223	8-729-230-63	TRANSISTOR 2SC4116-YG	
			(TR501E/TR502E/TR503E/TR506E)
Q224	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
			(TR501E/TR502E/TR503E/TR506E)
Q226	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q227	8-729-013-15	TRANSISTOR 2SC4909-TL	
Q228	8-729-403-35	TRANSISTOR UN5113-TX	
Q229	8-729-402-42	TRANSISTOR UN5213-TX	
Q230	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
			(TR86/TR96/TR507/TR916/TR740E)
Q231	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q232	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q301	8-729-807-86	TRANSISTOR 2SB1295-UL5/6-TB	
Q302	8-729-402-42	TRANSISTOR UN5213-TX	
Q303	8-729-402-42	TRANSISTOR UN5213-TX	
			(TR86/TR96/TR507/TR916/TR740E)
Q304	8-729-101-07	TRANSISTOR 2SB798-T1-DLDK	
Q305	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q400	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q401	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q501	8-729-420-53	TRANSISTOR UN5115-(TX)	
Q506	8-729-421-26	TRANSISTOR UN5216QRS-TX	
			(TR506/TR507/TR506E/TR720E/TR740E)
Q507	8-729-421-26	TRANSISTOR UN5216QRS-TX	
Q570	8-729-402-42	TRANSISTOR UN5213-TX	
			(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
Q601	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q602	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q603	8-729-013-31	TRANSISTOR 2SA1588-OY-TE85L	
Q703	8-729-402-42	TRANSISTOR UN5213-TX	
Q704	8-729-403-35	TRANSISTOR UN5113-TX	
Q705	8-729-403-35	TRANSISTOR UN5113-TX	
Q706	8-729-402-42	TRANSISTOR UN5213-TX	
Q750	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q752	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q753	8-729-013-15	TRANSISTOR 2SC4909-TL	
			(TR86/TR96/TR506/TR507/TR916)
Q754	8-729-013-15	TRANSISTOR 2SC4909-TL	
			(TR86/TR96/TR506/TR507/TR916)
		< RESISTOR >	
R061	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R062	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R063	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R064	1-216-837-11	METAL CHIP 22K 5% 1/16W	

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Ref. No.	Part No.	Description			Remarks
R065	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R101	1-216-803-11	METAL CHIP	33	5%	1/16W
R102	1-216-818-11	METAL CHIP	560	5%	1/16W
R103	1-216-814-11	METAL CHIP	270	5%	1/16W
R104	1-216-813-11	METAL CHIP	220	5%	1/16W
R105	1-216-837-11	METAL CHIP	22K	5%	1/16W
R106	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R107	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R108	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R109	1-216-839-11	METAL CHIP	33K	5%	1/16W
R110	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R111	1-216-837-11	METAL CHIP	22K	5%	1/16W
R112	1-216-837-11	METAL CHIP	22K	5%	1/16W
R113	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R114	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R115	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R116	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R117	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R118	1-216-838-11	METAL CHIP	27K	5%	1/16W
R119	1-216-818-11	METAL CHIP	560	5%	1/16W
R120	1-216-818-11	METAL CHIP	560	5%	1/16W
R121	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R122	1-216-838-11	METAL CHIP	27K	5%	1/16W
R123	1-216-818-11	METAL CHIP	560	5%	1/16W
R124	1-216-818-11	METAL CHIP	560	5%	1/16W
R125	1-216-833-11	METAL CHIP	10K	5%	1/16W
R129	1-216-864-11	METAL CHIP	0	5%	1/16W
R132	1-216-797-11	METAL CHIP	10	5%	1/16W
R133	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R134	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R135	1-216-821-11	METAL CHIP	1K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R136	1-216-836-11	METAL CHIP	18K	5%	1/16W
R137	1-216-833-11	METAL CHIP	10K	5%	1/16W
R138	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R139	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R140	1-216-833-11	METAL CHIP	10K	5%	1/16W
R141	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R142	1-216-836-11	METAL CHIP	18K	5%	1/16W
R145	1-216-847-11	METAL CHIP	150K	5%	1/16W
R146	1-216-852-11	METAL CHIP	390K	5%	1/16W
R147	1-216-853-11	METAL CHIP	470K	5%	1/16W
R150	1-216-864-11	METAL CHIP	0	5%	1/16W
R152	1-216-833-11	METAL CHIP	10K	5%	1/16W
R153	1-216-839-11	METAL CHIP	33K	5%	1/16W
R154	1-216-821-11	METAL CHIP	1K	5%	1/16W
R155	1-216-817-11	METAL CHIP	470	5%	1/16W
R156	1-216-818-11	METAL CHIP	560	5%	1/16W
R157	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R158	1-216-809-11	METAL CHIP	100	5%	1/16W
R159	1-216-818-11	METAL CHIP	560	5%	1/16W
R160	1-216-818-11	METAL CHIP	560	5%	1/16W
R163	1-216-813-11	METAL CHIP	220	5%	1/16W
R164	1-216-818-11	METAL CHIP	560	5%	1/16W
R165	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R167	1-216-818-11	METAL CHIP	560	5%	1/16W
R168	1-216-818-11	METAL CHIP	560	5%	1/16W
R169	1-216-816-11	METAL CHIP	390	5%	1/16W
R170	1-216-821-11	METAL CHIP	1K	5%	1/16W
R171	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R172	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R174	1-216-864-11	METAL CHIP	0	5%	1/16W
R175	1-216-834-11	METAL CHIP	12K	5%	1/16W
R176	1-216-833-11	METAL CHIP	10K	5%	1/16W
R177	1-216-817-11	METAL CHIP	470	5%	1/16W
R178	1-216-807-11	METAL CHIP	68	5%	1/16W
R179	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R180	1-216-817-11	METAL CHIP	470	5%	1/16W
R181	1-216-819-11	METAL CHIP	680	5%	1/16W
R182	1-216-821-11	METAL CHIP	1K	5%	1/16W
R183	1-216-836-11	METAL CHIP	18K	5%	1/16W
R184	1-216-836-11	METAL CHIP	18K	5%	1/16W
R185	1-216-821-11	METAL CHIP	1K	5%	1/16W
R186	1-216-804-11	METAL CHIP	39	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R186	1-216-803-11	METAL CHIP	33	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R187	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R187	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R189	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R190	1-216-864-11	METAL CHIP	0	5%	1/16W
R191	1-216-833-11	METAL CHIP	10K	5%	1/16W
R192	1-216-833-11	METAL CHIP	10K	5%	1/16W
R193	1-216-864-11	METAL CHIP	0	5%	1/16W
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W
R202	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR96/TR916/TR620E/TR720E/TR740E)			
R202	1-216-836-11	METAL CHIP	18K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E)			
R202	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
		(TR86/TR506/TR507)			
R203	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E)			
R203	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
		(TR86/TR506/TR507)			
R204	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R205	1-216-841-11	METAL CHIP	47K	5%	1/16W
		(TR86/TR96/TR507/TR916/TR740E)			
R206	1-216-815-11	METAL CHIP	330	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916)			
R207	1-216-841-11	METAL CHIP	47K	5%	1/16W
		(TR86/TR96/TR507/TR916/TR740E)			
R208	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		(TR86/TR96/TR507/TR916/TR740E)			
R210	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR506/TR507/TR916/TR501E/TR502E/TR503E/TR506E)			
R211	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR620E/TR720E/TR740E)			

Ref. No.	Part No.	Description			Remarks
R212	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(TR86/TR96/TR506/TR507/TR916)
R213	1-216-841-11	METAL CHIP	47K	5%	1/16W
R214	1-216-807-11	METAL CHIP	68	5%	1/16W
R215	1-216-821-11	METAL CHIP	1K	5%	1/16W
R216	1-216-817-11	METAL CHIP	470	5%	1/16W
R218	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R219	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R220	1-216-833-11	METAL CHIP	10K	5%	1/16W
R221	1-216-833-11	METAL CHIP	10K	5%	1/16W
R222	1-216-818-11	METAL CHIP	560	5%	1/16W
R223	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R224	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R225	1-216-833-11	METAL CHIP	10K	5%	1/16W
R226	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R228	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R229	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R230	1-216-821-11	METAL CHIP	1K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R231	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R232	1-216-821-11	METAL CHIP	1K	5%	1/16W
R233	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R234	1-218-849-11	METAL GLAZE	1.2K	0.50%	1/16W
R235	1-216-821-11	METAL CHIP	1K	5%	1/16W
R236	1-218-878-11	METAL GLAZE	20K	0.50%	1/16W
R237	1-218-865-11	METAL GLAZE	5.6K	0.50%	1/16W
R239	1-216-864-11	METAL CHIP	0	5%	1/16W
R240	1-218-876-11	METAL GLAZE	16K	0.50%	1/16W
R241	1-218-839-11	METAL GLAZE	470	0.50%	1/16W
R242	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W
R243	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R244	1-216-843-11	METAL CHIP	68K	5%	1/16W
R245	1-216-864-11	METAL CHIP	0	5%	1/16W
			(TR86/TR96/TR506/TR507/TR916)		
R246	1-216-864-11	METAL CHIP	0	5%	1/16W
R247	1-216-833-11	METAL CHIP	10K	5%	1/16W
R248	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R249	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R249	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
			(TR86/TR96/TR506/TR507/TR916)		
R250	1-216-818-11	METAL CHIP	560	5%	1/16W
R252	1-216-833-11	METAL CHIP	10K	5%	1/16W
R254	1-216-841-11	METAL CHIP	47K	5%	1/16W
R255	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R256	1-216-833-11	METAL CHIP	10K	5%	1/16W
R257	1-216-821-11	METAL CHIP	1K	5%	1/16W
R259	1-216-833-11	METAL CHIP	10K	5%	1/16W
R260	1-216-817-11	METAL CHIP	470	5%	1/16W
R261	1-216-841-11	METAL CHIP	47K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R262	1-216-837-11	METAL CHIP	22K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R263	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R265	1-216-821-11	METAL CHIP	1K	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R266	1-216-864-11	METAL CHIP	0	5%	1/16W
R267	1-216-864-11	METAL CHIP	0	5%	1/16W
R268	1-216-818-11	METAL CHIP	560	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R270	1-216-818-11	METAL CHIP	560	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R270	1-216-817-11	METAL CHIP	470	5%	1/16W
			(TR86/TR96/TR506/TR507/TR916)		
R271	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R272	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R274	1-216-864-11	METAL CHIP	0	5%	1/16W
R276	1-216-864-11	METAL CHIP	0	5%	1/16W
R277	1-216-819-11	METAL CHIP	680	5%	1/16W
R279	1-216-821-11	METAL CHIP	1K	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R281	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R282	1-216-821-11	METAL CHIP	1K	5%	1/16W
			(TR620E/TR720E/TR740E)		
R282	1-216-817-11	METAL CHIP	470	5%	1/16W
			(TR86/TR96/TR506/TR507/TR916)		
R283	1-216-819-11	METAL CHIP	680	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R284	1-216-819-11	METAL CHIP	680	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R286	1-216-836-11	METAL CHIP	18K	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R287	1-216-864-11	METAL CHIP	0	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R289	1-216-839-11	METAL CHIP	33K	5%	1/16W
			(TR501E/TR502E/TR503E/TR506E)		
R290	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R291	1-216-864-11	METAL CHIP	0	5%	1/16W
R292	1-216-857-11	METAL CHIP	1M	5%	1/16W
R293	1-216-817-11	METAL CHIP	470	5%	1/16W
R294	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R295	1-216-852-11	METAL CHIP	390K	5%	1/16W
R296	1-216-849-11	METAL CHIP	220K	5%	1/16W
R297	1-216-842-11	METAL CHIP	56K	5%	1/16W
R298	1-216-833-11	METAL CHIP	10K	5%	1/16W
R299	1-218-272-11	METAL GLAZE	5.1K	5%	1/16W
R302	1-216-864-11	METAL CHIP	0	5%	1/16W
R303	1-216-833-11	METAL CHIP	10K	5%	1/16W
R304	1-216-841-11	METAL CHIP	47K	5%	1/16W
R305	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R306	1-216-853-11	METAL CHIP	470K	5%	1/16W
R307	1-216-841-11	METAL CHIP	47K	5%	1/16W
R308	1-216-853-11	METAL CHIP	470K	5%	1/16W
R309	1-216-853-11	METAL CHIP	470K	5%	1/16W
R310	1-216-841-11	METAL CHIP	47K	5%	1/16W
R311	1-216-817-11	METAL CHIP	470	5%	1/16W
R312	1-208-762-11	METAL GLAZE	150	0.50%	1/10W
R313	1-208-750-11	METAL GLAZE	47	0.50%	1/10W
R314	1-216-805-11	METAL CHIP	47	5%	1/16W
R315	1-216-853-11	METAL CHIP	470K	5%	1/16W
R316	1-216-853-11	METAL CHIP	470K	5%	1/16W
R317	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TR740E)

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Ref. No.	Part No.	Description			Remarks
R319	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
					(TR86/TR96/TR916)
R320	1-216-811-11	METAL CHIP	150	5%	1/16W
					(TR86/TR96/TR507/TR916/TR740E)
R321	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R322	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R323	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R324	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R325	1-216-837-11	METAL CHIP	22K	5%	1/16W
R326	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R328	1-216-853-11	METAL CHIP	470K	5%	1/16W
R329	1-216-853-11	METAL CHIP	470K	5%	1/16W
R330	1-216-864-11	METAL CHIP	0	5%	1/16W
R331	1-216-821-11	METAL CHIP	1K	5%	1/16W
R332	1-216-821-11	METAL CHIP	1K	5%	1/16W
R333	1-216-821-11	METAL CHIP	1K	5%	1/16W
R334	1-216-821-11	METAL CHIP	1K	5%	1/16W
R335	1-216-821-11	METAL CHIP	1K	5%	1/16W
R336	1-216-821-11	METAL CHIP	1K	5%	1/16W
R337	1-216-839-11	METAL CHIP	33K	5%	1/16W
R339	1-216-841-11	METAL CHIP	47K	5%	1/16W
R340	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R341	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R342	1-216-864-11	METAL CHIP	0	5%	1/16W
R343	1-216-820-11	METAL CHIP	820	5%	1/16W
R344	1-216-836-11	METAL CHIP	18K	5%	1/16W
R400	1-216-845-11	METAL CHIP	100K	5%	1/16W
R401	1-216-845-11	METAL CHIP	100K	5%	1/16W
R402	1-216-845-11	METAL CHIP	100K	5%	1/16W
R403	1-216-845-11	METAL CHIP	100K	5%	1/16W
R404	1-216-845-11	METAL CHIP	100K	5%	1/16W
R405	1-216-845-11	METAL CHIP	100K	5%	1/16W
R406	1-216-833-11	METAL CHIP	10K	5%	1/16W
R407	1-216-841-11	METAL CHIP	47K	5%	1/16W
R408	1-216-841-11	METAL CHI	47K	5%	1/16W
					(TR740E)
R408	1-216-843-11	METAL CHIP	68K	5%	1/16W
					(TR502E/TR720E)
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W
					(TR96/TR916)
R408	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TR86/TR96/TR506/TR507/TR916/TR506E)
R409	1-216-843-11	METAL CHIP	68K	5%	1/16W
					(TR86/TR96/TR916/TR620E/TR720E/TR740E)
R410	1-216-841-11	METAL CHIP	47K	5%	1/16W
R411	1-216-864-11	METAL CHIP	0	5%	1/16W
R412	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TR506/TR507/TR501E/TR502E/TR503E/TR506E)
R412	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(TR86/TR96/TR916/TR620E/TR720E/TR740E)
R413	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TR86/TR96/TR506/TR507/TR916)
R414	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
R417	1-216-821-11	METAL CHIP	1K	5%	1/16W
R418	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R419	1-216-845-11	METAL CHIP	100K	5%	1/16W
R420	1-216-833-11	METAL CHIP	10K	5%	1/16W
					(TR86/TR96/TR916)
R421	1-216-821-11	METAL CHIP	1K	5%	1/16W
R422	1-216-845-11	METAL CHIP	100K	5%	1/16W
R423	1-216-845-11	METAL CHIP	100K	5%	1/16W
R424	1-216-843-11	METAL CHIP	68K	5%	1/16W
					(TR740E)
R424	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(TR502E/TR720E)
R424	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TR501E/TR503E/TR620E)
R424	1-216-845-11	METAL CHIP	100K	5%	1/16W
					(TR86/TR506/TR506E)
R425	1-216-833-11	METAL CHIP	10K	5%	1/16W
R426	1-216-833-11	METAL CHIP	10K	5%	1/16W
R427	1-216-849-11	METAL CHIP	220K	5%	1/16W
R428	1-216-841-11	METAL CHIP	47K	5%	1/16W
R429	1-216-800-11	METAL GLAZE	18	5%	1/16W
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R431	1-216-845-11	METAL CHIP	100K	5%	1/16W
R434	1-216-835-11	METAL CHIP	15K	5%	1/16W
R436	1-216-845-11	METAL CHIP	100K	5%	1/16W
R437	1-216-841-11	METAL CHIP	47K	5%	1/16W
R438	1-216-845-11	METAL CHIP	100K	5%	1/16W
R439	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R440	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R441	1-216-839-11	METAL CHIP	33K	5%	1/16W
R442	1-216-845-11	METAL CHIP	100K	5%	1/16W
R443	1-216-837-11	METAL CHIP	22K	5%	1/16W
					(TR86/TR96/TR506/TR507/TR916)
R444	1-216-837-11	METAL CHIP	22K	5%	1/16W
R445	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
R445	1-216-833-11	METAL CHIP	10K	5%	1/16W
					(TR86/TR96/TR506/TR507/TR916)
R446	1-216-836-11	METAL CHIP	18K	5%	1/16W
R447	1-216-833-11	METAL CHIP	10K	5%	1/16W
R448	1-216-833-11	METAL CHIP	10K	5%	1/16W
R449	1-216-833-11	METAL CHIP	10K	5%	1/16W
R450	1-216-833-11	METAL CHIP	10K	5%	1/16W
R451	1-216-845-11	METAL CHIP	100K	5%	1/16W
R452	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R453	1-217-671-11	METAL CHIP	1	5%	1/10W
R454	1-217-671-11	METAL CHIP	1	5%	1/10W
R455	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R456	1-216-841-11	METAL CHIP	47K	5%	1/16W
R458	1-217-671-11	METAL CHIP	1	5%	1/10W
R459	1-217-671-11	METAL CHIP	1	5%	1/10W
R460	1-217-671-11	METAL CHIP	1	5%	1/10W
R461	1-216-845-11	METAL CHIP	100K	5%	1/16W
R462	1-216-833-11	METAL CHIP	10K	5%	1/16W
R463	1-216-833-11	METAL CHIP	10K	5%	1/16W
R464	1-216-833-11	METAL CHIP	10K	5%	1/16W
R465	1-216-808-11	METAL CHIP	82	5%	1/16W
R466	1-216-845-11	METAL CHIP	100K	5%	1/16W
R467	1-216-019-00	METAL CHIP	56	5%	1/10W
R468	1-216-833-11	METAL CHIP	10K	5%	1/16W
R469	1-216-833-11	METAL CHIP	10K	5%	1/16W
R471	1-216-821-11	METAL CHIP	1K	5%	1/16W
R472	1-216-833-11	METAL CHIP	10K	5%	1/16W
R473	1-216-833-11	METAL CHIP	10K	5%	1/16W
R475	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R478	1-216-821-11	METAL CHIP	1K	5%	1/16W
R479	1-216-817-11	METAL CHIP	470	5%	1/16W
R481	1-216-817-11	METAL CHIP	470	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R484	1-216-821-11	METAL CHIP	1K	5%	1/16W
R485	1-216-821-11	METAL CHIP	1K	5%	1/16W
R486	1-216-821-11	METAL CHIP	1K	5%	1/16W
R487	1-216-821-11	METAL CHIP	1K	5%	1/16W
R488	1-216-817-11	METAL CHIP	470	5%	1/16W
R501	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R501	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R502	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R503	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R503	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R505	1-216-833-11	METAL CHIP	10K	5%	1/16W
R506	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R506	1-218-893-11	METAL GLAZE	82K	0.50%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R507	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R507	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R511	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R512	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R513	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R514	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R514	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R515	1-216-813-11	METAL CHIP	220	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R515	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R516	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R517	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R517	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R519	1-216-820-11	METAL CHIP	820	5%	1/16W
R520	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R522	1-216-817-11	METAL CHIP	470	5%	1/16W
R526	1-216-817-11	METAL CHIP	470	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R527	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R530	1-216-857-11	METAL CHIP	1M	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R531	1-216-817-11	METAL CHIP	470	5%	1/16W
R532	1-216-817-11	METAL CHIP	470	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R533	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R534	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R537	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TR506/TR507/TR506E/TR720E/TR740E)			
R537	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			

Ref. No.	Part No.	Description			Remarks
R556	1-216-853-11	METAL CHIP	470K	5%	1/16W
R562	1-216-864-11	METAL CHIP	0	5%	1/16W
R564	1-216-864-11	METAL CHIP	0	5%	1/16W
		(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)			
R570	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R571	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R575	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R581	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R601	1-216-001-00	METAL CHIP	10	5%	1/10W
R603	1-216-821-11	METAL CHIP	1K	5%	1/16W
R604	1-216-845-11	METAL CHIP	100K	5%	1/16W
R605	1-216-821-11	METAL CHIP	1K	5%	1/16W
R606	1-216-835-11	METAL CHIP	15K	5%	1/16W
R607	1-216-848-11	METAL CHIP	180K	5%	1/16W
R608	1-216-848-11	METAL CHIP	180K	5%	1/16W
R609	1-216-848-11	METAL CHIP	180K	5%	1/16W
R610	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R611	1-216-815-11	METAL CHIP	330	5%	1/16W
R612	1-216-845-11	METAL CHIP	100K	5%	1/16W
R613	1-216-836-11	METAL CHIP	18K	5%	1/16W
R614	1-216-836-11	METAL CHIP	18K	5%	1/16W
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W
R616	1-216-837-11	METAL CHIP	22K	5%	1/16W
R618	1-216-837-11	METAL CHIP	22K	5%	1/16W
R619	1-216-835-11	METAL CHIP	15K	5%	1/16W
R620	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R621	1-216-833-11	METAL CHIP	10K	5%	1/16W
R630	1-216-843-11	METAL CHIP	68K	5%	1/16W
R631	1-216-843-11	METAL CHIP	68K	5%	1/16W
R632	1-216-848-11	METAL CHIP	180K	5%	1/16W
R633	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R701	1-216-809-11	METAL CHIP	100	5%	1/16W
		(TR96/TR916/TR620E/TR720E/TR740E)			
R702	1-216-809-11	METAL CHIP	100	5%	1/16W
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
R703	1-216-857-11	METAL CHIP	1M	5%	1/16W
R704	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(TR506/TR507/TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R704	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
					(TR86/TR96/TR916)
R708	1-216-821-11	METAL CHIP	1K	5%	1/16W
R709	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R710	1-218-876-11	METAL GLAZE	16K	0.50%	1/16W
R713	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R714	1-216-857-11	METAL CHIP	1M	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R715	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R717	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R719	1-216-818-11	METAL CHIP	560	5% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R719	1-216-810-11	METAL CHIP	120	5% 1/16W	
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
R721	1-216-827-11	METAL CHIP	3.3K	5% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R721	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
R722	1-216-827-11	METAL CHIP	3.3K	5% 1/16W	
		(TR720E/TR740E)			
R722	1-216-827-11	METAL CHIP	3.3K	5% 1/16W	
		(TR96/TR916/TR503E/TR506E/TR620E/TR720E/TR740E)			
R722	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
R724	1-216-818-11	METAL CHIP	560	5% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R724	1-216-810-11	METAL CHIP	120	5% 1/16W	
		(TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)			
R725	1-216-864-11	METAL CHIP	0	5% 1/16W	
R728	1-216-853-11	METAL CHIP	470K	5% 1/16W	
R729	1-216-809-11	METAL CHIP	100	5% 1/16W	
R732	1-216-841-11	METAL CHIP	47K	5% 1/16W	
R733	1-216-841-11	METAL CHIP	47K	5% 1/16W	
R734	1-216-841-11	METAL CHIP	47K	5% 1/16W	
R735	1-216-841-11	METAL CHIP	47K	5% 1/16W	
R743	1-216-864-11	METAL CHIP	0	5% 1/16W	
		(EXCEPT TR96/TR916)			
R744	1-216-864-11	METAL CHIP	0	5% 1/16W	
R751	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R756	1-216-864-11	METAL CHIP	0	5% 1/16W	
R757	1-216-864-11	METAL CHIP	0	5% 1/16W	
R758	1-216-833-11	METAL CHIP	10K	5% 1/16W	
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R759	1-216-836-11	METAL CHIP	18K	5% 1/16W	
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
R760	1-216-864-11	METAL CHIP	0	5% 1/16W	
		(TR86/TR96/TR506/TR507/TR916)			
R761	1-216-813-11	METAL CHIP	220	5% 1/16W	
		(TR86/TR96/TR506/TR507/TR916)			
R775	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R776	1-216-797-11	METAL CHIP	10	5% 1/16W	
R777	1-216-797-11	METAL CHIP	10	5% 1/16W	
R778	1-218-885-11	METAL GLAZE	39K	0.50% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R779	1-218-885-11	METAL GLAZE	39K	0.50% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R780	1-218-891-11	METAL GLAZE	68K	0.50% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R780	1-216-864-11	METAL CHIP	0	5% 1/16W	
		(TR86/TR506/TR507/TR502E/TR506E)			
R781	1-218-891-11	METAL GLAZE	68K	0.50% 1/16W	
		(TR96/TR916/TR620E/TR720E/TR740E)			
R781	1-216-864-11	METAL CHIP	0	5% 1/16W	
		(TR86/TR506/TR507/TR502E/TR506E)			
R782	1-216-821-11	METAL CHIP	1K	5% 1/16W	
		(EXCEPT TR502E)			
R783	1-216-845-11	METAL CHIP	100K	5% 1/16W	
		(EXCEPT TR502E)			
R784	1-216-821-11	METAL CHIP	1K	5% 1/16W	

Ref. No.	Part No.	Description			Remarks
		(EXCEPT TR502E)			
		< SWITCH >			
S301	1-771-029-21	SWITCH, TACTILE (PAUSE)			
S302	1-771-029-21	SWITCH, TACTILE (STOP)			
S303	1-771-029-21	SWITCH, TACTILE (FF)			
S304	1-771-029-21	SWITCH, TACTILE (PLAY)			
S305	1-771-029-21	SWITCH, TACTILE (REW)			
S306	1-771-029-21	SWITCH, TACTILE (EDITSERCH +)			
S307	1-771-029-21	SWITCH, TACTILE (EDITSERCH –)			
S308	1-771-029-21	SWITCH, TACTILE (LASER LINK)			
		(TR86/TR96/TR507/TR916/TR740E)			
		< VIBRATOR >			
X400	1-767-031-21	VIBRATOR, CRYSTAL 11.718MHz			
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
X400	1-767-030-21	VIBRATOR, CRYSTAL 11.895MHz			
		(TR86/TR96/TR506/TR507/TR916)			
X701	1-760-321-11	VIBRATOR, CRYSTAL 28.375MHz			
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
X701	1-760-320-11	VIBRATOR, CRYSTAL 28.636MHz			
		(TR86/TR96/TR506/TR507/TR916)			
X702	1-579-613-11	VIBRATOR, CRYSTAL 17.734MHz			
		(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)			
X703	1-579-553-11	VIBRATOR 12MHz (EXCEPT TR502E)			
	A-7073-078-A	VF-102 BOARD, COMPLETE			
		**********			
		(TR501E/TR502E/TR620E)			
		(Ref.No.4,000 Series)			
		< CAPACITOR >			
C902	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C903	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C904	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C905	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
⚠C910	1-164-756-11	CERAMIC CHIP	0.0033uF	5%	50V
⚠C911	1-164-713-11	CERAMIC CHIP	0.0056uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C914	1-128-007-11	ELECT CHIP	2.2uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C919	1-126-245-11	ELECT	330uF	20%	6.3V
		< CONNECTOR >			
CN901	1-566-537-11	CONNECTOR, FPC (NON ZIF) 5P			
CN902	1-573-290-21	PIN, CONNECTOR (1.5MM) (SMD) 4P			
		< DIODE >			
D901	8-719-951-21	DIODE PR1102W-TR			
D902	8-719-404-49	DIODE MA111			
		< IC >			

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
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Ne les remplacer que par une pièce portant le numéro spécifie.

Ref. No.	Part No.	Description			Remarks
IC901	8-759-196-14	IC BA7149F-E2			
		< COIL >			
L901	1-412-031-11	INDUCTOR CHIP 47uH			
L902	1-412-957-11	INDUCTOR 33uH			
L903	1-411-697-11	COIL, FERRITE (HLC)			
L904	1-414-757-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q902	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q903	8-729-216-31	TRANSISTOR 2SA1163-G			
Q904	8-729-230-63	TRANSISTOR 2SC4116-YG			
		< RESISTOR >			
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R906	1-216-813-11	METAL CHIP	220	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R916	1-218-881-11	METAL GLAZE	27K	0.50%	1/16W
R917	1-218-893-11	METAL GLAZE	82K	0.50%	1/16W
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-216-839-11	METAL CHIP	33K	5%	1/16W
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W
R921	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R922	1-216-847-11	METAL CHIP	150K	5%	1/16W
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
R924	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R925	1-216-862-11	METAL GLAZE	2.7M	5%	1/16W
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W
R927	1-216-821-11	METAL CHIP	1K	5%	1/16W
R928	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R929	1-216-818-11	METAL CHIP	560	5%	1/16W
R930	1-216-791-11	METAL CHIP	3.3	5%	1/16W
R931	1-217-671-11	METAL CHIP	1	5%	1/10W
R932	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< VARIABLE RESISTOR >			
RV904	1-238-862-11	RES, ADJ, CERMET 1M			
RV905	1-238-852-11	RES, ADJ, CERMET 470			
		< TRANSFORMER >			
⚠T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK			
		< FLAT CABLE >			
W901	1-540-019-21	SOCKET ASSY, CRT			

Ref. No.	Part No.	Description			Remarks
	A-7073-088-A	VF-109 BOARD, COMPLETE			
		**********			
		(TR503E/TR506E/TR720E/TR740E)			
	A-7073-084-A	VF-109 BOARD, COMPLETE			
		**********			
		(TR86/TR96/TR506/TR507/TR916)			
		(Ref.No.7,000 Series)			
		< CAPACITOR >			
C851	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C852	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C853	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C854	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C855	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C856	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C857	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C858	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C859	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C865	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C867	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C868	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C870	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C871	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN851	1-573-350-11	CONNECTOR, FFC/FPC 10P			
* CN852	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
		< DIODE >			
D852	8-719-043-70	DIODE MA6S121-(TX)			
D853	8-719-404-49	DIODE MA111-TX			
		< IC >			
IC851	8-759-097-75	IC MB3789PFV-G-BND-ER			
IC852	8-759-510-71	IC BA10358F-E2			
		< COIL >			
L853	1-412-033-11	INDUCTOR CHIP 220uH			
		< TRANSISTOR >			
Q853	8-729-028-81	TRANSISTOR DTA123JUA-T106			
		< RESISTOR >			
R852	1-216-841-11	METAL CHIP	47K	5%	1/16W
R853	1-218-899-11	METAL GLAZE	150K	0.50%	1/16W
R854	1-218-903-11	METAL GLAZE	220K	0.50%	1/16W
R855	1-216-834-11	METAL CHIP	12K	5%	1/16W
R856	1-218-899-11	METAL GLAZE	150K	0.50%	1/16W
R857	1-218-905-11	METAL GLAZE	270K	0.50%	1/16W
R858	1-216-834-11	METAL CHIP	12K	5%	1/16W
R859	1-218-901-11	METAL GLAZE	180K	0.50%	1/16W
R860	1-218-887-11	METAL GLAZE	47K	0.50%	1/16W

Note :
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Replace only with part number specified.

Note :
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Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R861	1-216-843-11	METAL CHIP	68K	5%	1/16W
R862	1-216-838-11	METAL CHIP	27K	5%	1/16W
R863	1-216-847-11	METAL CHIP	150K	5%	1/16W
R864	1-216-841-11	METAL CHIP	47K	5%	1/16W
R865	1-216-839-11	METAL CHIP	33K	5%	1/16W
R866	1-216-846-11	METAL CHIP	120K	5%	1/16W
R867	1-216-845-11	METAL CHIP	100K	5%	1/16W
R868	1-216-841-11	METAL CHIP	47K	5%	1/16W
R869	1-216-843-11	METAL CHIP	68K	5%	1/16W
R870	1-216-842-11	METAL CHIP	56K	5%	1/16W
R871	1-216-850-11	METAL CHIP	270K	5%	1/16W
R872	1-216-833-11	METAL CHIP	10K	5%	1/16W
R873	1-216-851-11	METAL CHIP	330K	5%	1/16W
R874	1-216-847-11	METAL CHIP	150K	5%	1/16W
R875	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R879	1-216-837-11	METAL CHIP	22K	5%	1/16W
R881	1-216-853-11	METAL CHIP	470K	5%	1/16W
R891	1-216-296-91	CONDUCTOR, CHIP (3216)			

	A-7073-089-A	VF-110 BOARD, COMPLETE			
		**********			
		(TR503E/TR506E/TR720E/TR740E)			
	A-7073-085-A	VF-110 BOARD, COMPLETE			
		**********			
		(TR86/TR96/TR506/TR507/TR916)			
		(Ref.No.7,000 Series)			
		< CAPACITOR >			
C701	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C702	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C703	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C704	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C705	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C706	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C707	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
		(TR503E/TR506E/TR720E/TR740E)			
C708	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C709	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C710	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C711	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C712	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C713	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C714	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C715	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C716	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		(TR503E/TR506E/TR720E/TR740E)			
C717	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C718	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C719	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C720	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR503E/TR506E/TR720E/TR740E)			
C721	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
		(TR503E/TR506E/TR720E/TR740E)			
C722	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TR503E/TR506E/TR720E/TR740E)			
C723	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C724	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V

Ref. No.	Part No.	Description			Remarks
C725	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C726	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(TR503E/TR506E/TR720E/TR740E)			
C729	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
		(TR86/TR96/TR506/TR507/TR916)			
C729	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
		(TR503E/TR506E/TR720E/TR740E)			
C728	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C730	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
		(TR86/TR96/TR506/TR507/TR916)			
C730	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
		(TR503E/TR506E/TR720E/TR740E)			
C731	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
		(TR86/TR96/TR506/TR507/TR916)			
C731	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
		(TR503E/TR506E/TR720E/TR740E)			
C732	1-115-156-11	CERAMIC CHIP	1uF		10V
C733	1-165-320-11	CERAMIC CHIP	0.47uF	10%	16V
C734	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C735	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C736	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C737	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C738	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C739	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C740	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C741	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C742	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C744	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C745	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C746	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C747	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C748	1-164-346-11	CERAMIC CHIP	1uF		16V
C749	1-115-156-11	CERAMIC CHIP	1uF		10V
C750	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C751	1-107-688-11	TANTAL. CHIP	1.5uF	20%	20V
C752	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
CN701	1-766-346-21	CONNECTOR, FFC/FPC 16P			
* CN702	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
CN703	1-573-925-11	CONNECTOR, FFC/FPC (ZIF) 16P			
		< DIODE >			
D701	8-719-951-21	DIODE PR1102W-TR			
D702	8-719-404-49	DIODE MA111-TX			
D703	8-713-102-80	DIODE 1T369-01-T8A			
		(TR503E/TR506E/TR720E/TR740E)			
D704	8-713-102-80	DIODE 1T369-01-T8A			
		< IC >			
IC701	8-752-067-59	IC CXA1785R-T4			
IC702	8-759-251-40	IC MB88E346PFV-G-BND-ER			
IC703	8-759-075-66	IC TA75S01F(TE85R)			
IC704	8-752-377-97	IC CXD2411AR-T4			
		< COIL >			
L701	1-412-951-11	INDUCTOR 10uH			
L702	1-412-962-11	INDUCTOR 82uH			
		(TR86/TR96/TR506/TR507/TR916)			
L702	1-412-960-21	INDUCTOR 56uH			
		(TR503E/TR506E/TR720E/TR740E)			
L703	1-412-956-21	INDUCTOR 27uH			
		(TR503E/TR506E/TR720E/TR740E)			
L704	1-412-959-11	INDUCTOR 47uH			

Ref. No.	Part No.	Description			Remarks
L707	1-412-949-21	INDUCTOR 6.8uH			
		< TRANSISTOR >			
Q702	8-729-230-63	TRANSISTOR 2SC4116-YG (TR503E/TR506E/TR720E/TR740E)			
Q703	8-729-427-74	TRANSISTOR XP4601-TXE			
		< RESISTOR >			
R701	1-216-819-11	METAL CHIP	680	5%	1/16W
R703	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W
R704	1-216-857-11	METAL CHIP	1M	5%	1/16W
R705	1-216-842-11	METAL CHIP	56K	5%	1/16W
R707	1-216-841-11	METAL CHIP	47K	5%	1/16W
R708	1-216-833-11	METAL CHIP	10K	5%	1/16W
R709	1-220-397-11	METAL GLAZE	4.7M	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R710	1-216-821-11	METAL CHIP	1K	5%	1/16W
R711	1-216-814-11	METAL CHIP	270	5%	1/16W
R712	1-216-821-11	METAL CHIP	1K	5%	1/16W
R716	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R717	1-216-844-11	METAL CHIP	82K	5%	1/16W
R718	1-216-845-11	METAL CHIP	100K	5%	1/16W
R719	1-216-850-11	METAL CHIP	270K	5%	1/16W
R720	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R721	1-216-833-11	METAL CHIP	10K	5%	1/16W
R722	1-216-827-11	METAL CHIP	3.3K	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R723	1-220-397-11	METAL GLAZE	4.7M	5%	1/16W
R724	1-216-839-11	METAL CHIP	33K	5%	1/16W
R725	1-216-839-11	METAL CHIP	33K	5%	1/16W
R726	1-216-864-11	METAL CHIP	0	5%	1/16W
R727	1-216-840-11	METAL CHIP	39K	5%	1/16W
R728	1-216-839-11	METAL CHIP	33K	5%	1/16W
R729	1-216-839-11	METAL CHIP	33K	5%	1/16W
R730	1-216-840-11	METAL CHIP	39K	5%	1/16W
R731	1-216-849-11	METAL CHIP	220K	5%	1/16W
R732	1-216-853-11	METAL CHIP	470K	5%	1/16W
R734	1-216-825-11	METAL CHIP	2.2K	5%	1/16W (TR86/TR96/TR506/TR507/TR916)
R734	1-216-821-11	METAL CHIP	1K	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R735	1-216-839-11	METAL CHIP	33K	5%	1/16W
R736	1-216-839-11	METAL CHIP	33K	5%	1/16W
R737	1-216-807-11	METAL CHIP	68	5%	1/16W
R738	1-216-807-11	METAL CHIP	68	5%	1/16W
R739	1-216-807-11	METAL CHIP	68	5%	1/16W
R740	1-216-833-11	METAL CHIP	10K	5%	1/16W
R743	1-216-837-11	METAL CHIP	22K	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R744	1-216-864-11	METAL CHIP	0	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R746	1-216-839-11	METAL CHIP	33K	5%	1/16W
R747	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R748	1-216-864-11	METAL CHIP	0	5%	1/16W (TR86/TR96/TR506/TR507/TR916)
R749	1-216-833-11	METAL CHIP	10K	5%	1/16W
R750	1-216-841-11	METAL CHIP	47K	5%	1/16W
R753	1-216-839-11	METAL CHIP	33K	5%	1/16W
R754	1-216-839-11	METAL CHIP	33K	5%	1/16W
R755	1-216-839-11	METAL CHIP	33K	5%	1/16W
R756	1-216-833-11	METAL CHIP	10K	5%	1/16W
R757	1-216-839-11	METAL CHIP	33K	5%	1/16W
R761	1-216-821-11	METAL CHIP	1K	5%	1/16W
R762	1-216-838-11	METAL CHIP	27K	5%	1/16W
R763	1-216-842-11	METAL CHIP	56K	5%	1/16W
R767	1-216-864-11	METAL CHIP	0	5%	1/16W (TR503E/TR506E/TR720E/TR740E)
R768	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R769	1-218-905-11	METAL GLAZE	270K	0.50%	1/16W
R770	1-216-849-11	METAL CHIP	220K	5%	1/16W
R771	1-216-837-11	METAL CHIP	22K	5%	1/16W
		< VIBRATOR >			
X701	1-579-466-11	VIBRATOR, CRYSTAL 3.58MHz (TR86/TR96/TR506/TR507/TR916)			
X701	1-579-661-21	OSCILLATOR, CRYSTAL 4.43MHz (TR503E/TR506E/TR720E/TR740E)			

Ref. No.	Part No.	Description
		MISCELLANEOUS
		**********
61	1-542-315-11	MICROPHONE
74	1-517-530-21	LIGHT, VIDEO (TR86/TR96/TR916)
77	1-782-154-11	CABLE, FLEXIBLE FLAT 12P
101	1-475-068-11	SWITCH BLOCK, CONTROL(MF-7800)
103	1-801-697-21	DISPLAY PANEL, LIQUID CRYSTAL
105	1-782-153-11	CABLE, FLEXIBLE FLAT 45P
156	1-782-155-11	CABLE, FLEXIBLE FLAT 16P
158	1-665-151-11	FP-550 FLEXIBLE BOARD
160	1-665-150-11	FP-549 FLEXIBLE BOARD (TR86/TR96/TR916/TR620E/TR720E/TR740E)
164	1-547-787-41	FILTER BLOCK, OPTICAL (TR96/TR916/TR620E/TR720E/TR740E)
164	1-547-924-41	FILTER BLOCK, OPTICAL (TR86/TR506/TR507/TR501E/TR502E/TR503E/TR506E)
208	8-756-016-10	LCX005BK-5
212	1-665-152-11	FP-551 FLEXIBLE BOARD
258	1-782-156-11	CABLE, FLEXIBLE FLAT 5P
⚠259	1-452-673-31	CRT ASSY (M01KXX90WB) (TR501E/TR502E/TR620E)
501	8-848-710-01	LENS, ZOOM (LSV-510A)
502	A-4910-808-A	LSV-510A LENS DEVICE
503	3-713-791-41	SCREW (M1.7X5), TAPPING, P2
504	3-708-302-01	SCREW (BT3 P1.7X4C)
762	1-657-786-11	FP-221 FLEXIBLE BOARD
803	1-657-785-11	FP-248 FLEXIBLE BOARD
817	1-657-784-11	FP-220 FLEXIBLE BOARD
M901	A-7048-851-A	DRUM BLOCK ASSY (DGH-0D5A-R)(PAL)
M901	A-7048-849-A	DRUM BLOCK ASSY (DGH-0D4A-R)(NTSC)
M902	8-835-531-01	MOTOR, DC SCE-0601A (CAPSTAN)
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)
M905	1-698-760-01	STEPPING MOTOR (FOCUS)
M906	1-698-759-01	STEPPING MOTOR (ZOOM)

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
S003	1-762-441-21	SWITCH, ROTARY (ZOOM SW)	
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	A-7009-226-A	AC-V16 (US,Canadian)	
⚠	A-7009-227-B	AC-V16 (E)	
⚠	A-7009-230-B	AC-V16 (Australian)	
⚠	A-7009-231-A	AC-V16 (Hong Kong)	
⚠	A-7009-746-A	AC-V17 (AEP)	
⚠	A-7009-747-A	AC-V17 (UK)	
	A-7092-608-A	CASE (N) ASSY, BATTERY	(TR501E:AEP/TR502E/TR620E)
	A-7092-697-A	CASE (N) ASSY (2), BATTERY	(TR86/TR96)
	1-473-342-11	REMOTE COMMANDER (RMT-713)	
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P	(TR506/TR507/TR501E:E/TR503E/TR506E/TR720E/TR740E)
	1-574-039-21	CORD, CONNECTION (AV) 1.5M	(TR86/TR96/TR916/TR501E/TR502E/TR503E/TR620E)
	1-575-334-11	CORD, CONNECTION (AV STEREO) 1.5M	(TR506/TR507/TR506E/TR720E/TR740E)
	1-693-031-11	ADAPTOR, AC (AC-64NC) (TR507)	
	1-693-070-31	ADAPTOR, AC (AC-64NES)(TR740E)	
	1-764-622-11	ADAPTOR, CONVERSION	(TR501E:AEP/TR502E/TR620E)
	1-770-783-11	CONNECTOR, CONVERSION	(TR501E:AEP/TR502E/TR620E)
	3-800-844-11	INSTRUCTION	(TR501E/TR502E/TR503E/TR506E/TR620E/TR720E/TR740E)
	3-859-127-11	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN)	(TR501E:AEP,UK/TR502E:AEP,UK/TR620E)
	3-859-127-21	MANUAL, INSTRUCTION (GERMAN/ITALIAN)	(TR501E:AEP/TR502E:AEP/TR620E:AEP)
	3-859-127-31	MANUAL, INSTRUCTION	(SPANISH/PORTUGUESE) (TR501E:AEP/TR502E:AEP/TR620E:AEP)
	3-859-127-41	MANUAL, INSTRUCTION (FRENCH/DUTCH)	(TR501E:AEP/TR502E:AEP/TR620E:AEP)
	3-859-127-51	MANUAL, INSTRUCTION (SWEDISH/POLISH)	(TR501E:UK/TR502E:UK/TR620:UK)
	3-859-131-11	MANUAL, INSTRUCTION (ENGLISH)	(TR86/TR96/TR916)
	3-859-131-21	MANUAL, INSTRUCTION (FRENCH)	(TR86:Canadian)
	3-859-131-31	MANUAL, INSTRUCTION (ENGLISH/SPANISH)	(TR506/TR507)
	3-859-131-41	MANUAL, INSTRUCTION (CHINESE)	(TR506/TR507)
	3-859-173-11	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN)	(TR501E:E,Australiaan,Tourist/TR503E/TR506E/TR720E/TR740E)
	3-859-173-21	MANUAL, INSTRUCTION (FRENCH/GERMAN)	(TR501E:E,Tourist/TR503E:E,HongKong/TR506E/TR720E/TR740E)
	3-859-173-31	MANUAL, INSTRUCTION	(ARABIC/PORUTUGUESE) (TR501E:E/TR503E:E/TR506E/TR720E:E/TR740E)
	3-859-173-41	MANUAL, INSTRUCTION (CHINESE)	(TR501E:E/TR503E:E/TR506E/TR720E:E/TR740E)
	3-859-173-51	MANUAL, INSTRUCTION (CHINESE)	(TR501E:E,Tourist/TR503E:E/TR506E/TR720E:E/TR740E)
	3-859-838-11	MANUAL(IR),INSTRUCTION	(ENGLISH/SPANISH/CHINESE)(TR507)
	3-859-839-11	MANUAL(IR),INSTRUCTION	(ENGLISH/FRENCH/GERMAN/RUSSIAN)(TR740E)
	3-859-839-21	MANUAL(IR),INSTRUCTION	(ARABIC/PORTUGUESE/CHINESE)(TR740E)
	3-947-969-21	BELT (S), SHOULDER	
*	3-975-401-01	CUSHION (LOWER)	(TR86/TR96/TR916/TR506/TR501E/TR502E/ TR503E/TR506E/TR620ETR720E)
*	3-975-402-01	CUSHION, ACC	(TR86/TR96/TR916/TR506/TR501E/TR502E/ TR503E/TR506E/TR620E/TR720E)
*	3-975-894-01	INDIVIDUAL CARTON (TR740E)	
*	3-975-894-11	INDIVIDUAL CARTON (TR507)	
*	3-976-008-01	INDIVIDUAL CARTON (TR501E:E,Australian)	
*	3-976-008-11	INDIVIDUAL CARTON (TR501E:AEP,UK)	
*	3-976-008-41	INDIVIDUAL CARTON (TR502E)	
*	3-976-008-61	INDIVIDUAL CARTON (TR620E)	
*	3-976-009-51	INDIVIDUAL CARTON (TR720E)	
*	3-976-010-01	INDIVIDUAL CARTON (TR96/TR916)	
*	3-976-167-01	CUSHION, ACC (TR507/TR740E)	
*	3-976-168-01	CUSHION (F)(TR507/TR740E)	
*	3-976-395-01	INDIVIDUAL CARTON (TR503E/TR506E)	
*	3-976-395-11	INDIVIDUAL CARTON (TR86)	
*	3-976-395-21	INDIVIDUAL CARTON (TR506)	
**	NP-33	BATTERY PACK	
**	IFT-R10	AV CORDLESS IR RECIVER (TR507/TR740E)	

NOTE.
**MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

SECTION 6
ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6-34.

NT :	NTSC MODEL	ST :	STEREO MODEL
PAL :	PAL MODEL	V. LIGHT :	VIDEO LIGHT TYPE
WIDE :	WIDE (16 : 9) MODEL	IR :	INFRARED RADIATION TYPE
DZ :	DIGITAL ZOOM TYPE	S. SHOT :	STEADY SHOT MODEL
MO :	MONO MODEL		

6-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT

1-1-1. List of service tools

Oscilloscope, Regulated power supply, Vectorscope, Pattern generator
Adjustment screw driver, Color monitor, Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0 ND filter 0.3	J-6080-808-A J-6080-818-A	White balance check White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Siemens star	J-6080-875-A	For checking the flange back
J-6	Adjustment remote commander (RM-95 upgraded) Note	J-6082-053-B	
J-7	Multi CPC	J-6082-311-A	For video section adjustment (VC-188 board CN102)
J-8	Measuring pin tool for viewfinder	J-6082-192-A	For adjusting the viewfinder
J-9	IR receiving jig	J-6082-383-A	For IR section adjustment

Note: If the microprocessor IC in the adjusting remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched.
In this case, replace with the new microprocessor (8-759-148-35).

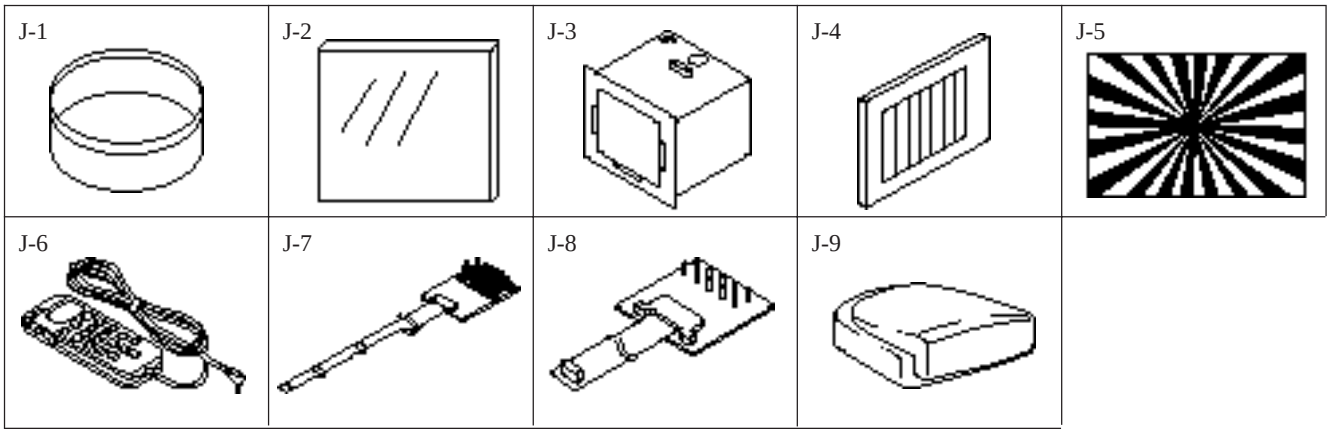


Fig.6-1-1.

1-1-2. Precautions

1. Switch settings

Adjust the switches to the following positions without loading the cassette tape unless otherwise specified.

1) Camera/video power switch
   Operation switch block ····· Camera
2) PROGRAM AE switch (CF-44 board S416) ····· AUTO
3) D ZOOM switch (MENU) ····· OFF
4) STEADY switch (CF-44 board S403) ····· OFF

2. Adjustment sequence

Adjust in the given order.

3. Subject

1) Set the camera and pattern box as shown in Fig. 6-1-2.
2) Color bar chart (Standard picture frame)

- Adjust the picture frame as shown in Fig. 6-1-3.
- Adjust camera zooming and direction until the camera output waveform on the oscilloscope shown in Fig. 6-1-3 (a) and the color picture on the monitor TV shown in Fig. 6-1-3 (b) have been acquired.
- Maintain this setup until adjustment is complete.

3) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box and adjust the camera setup until the white pattern picture frame is the same size and same position as the color bar chart (the standard picture frame).

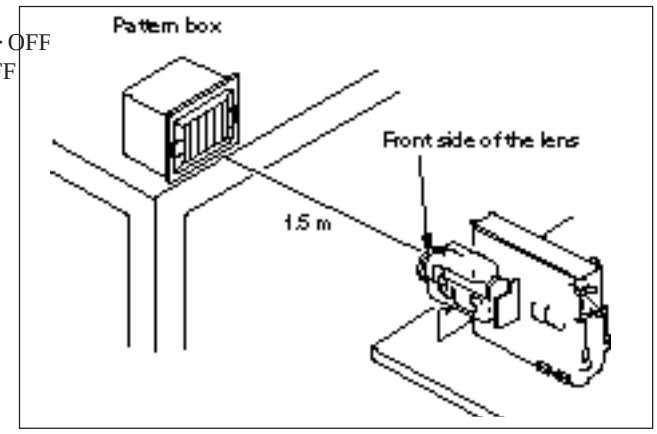


Fig. 6-1-2

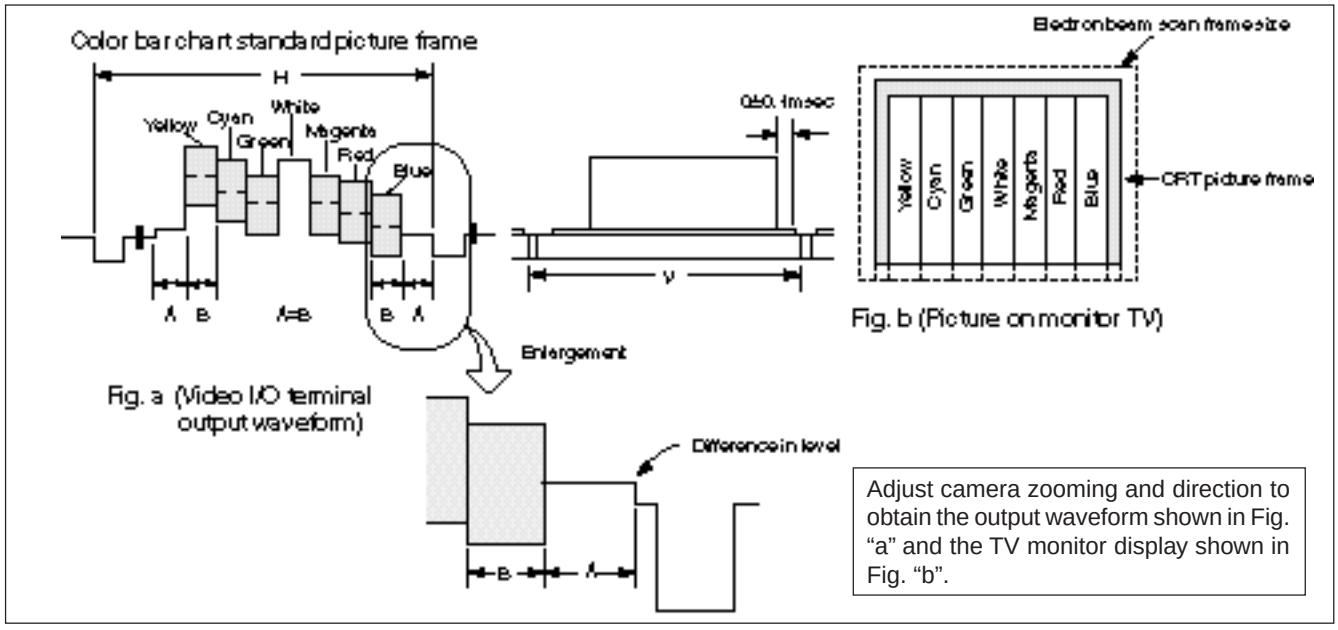


Fig. 6-1-3

4) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 6-1-4.

Note : Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

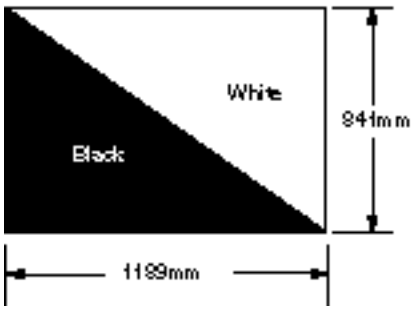


Fig. 6-1-4

1-1-3. Preparations

Note 1 : Refer to “2. Disassembly” for details of how to remove the cabinet and the respective boards.

Note 2 : Removal of the lens block and VC-188 board is not necessary if only adjustments are to be made.

1) Connect the adjustment equipment as shown in Fig. 6-1-5.

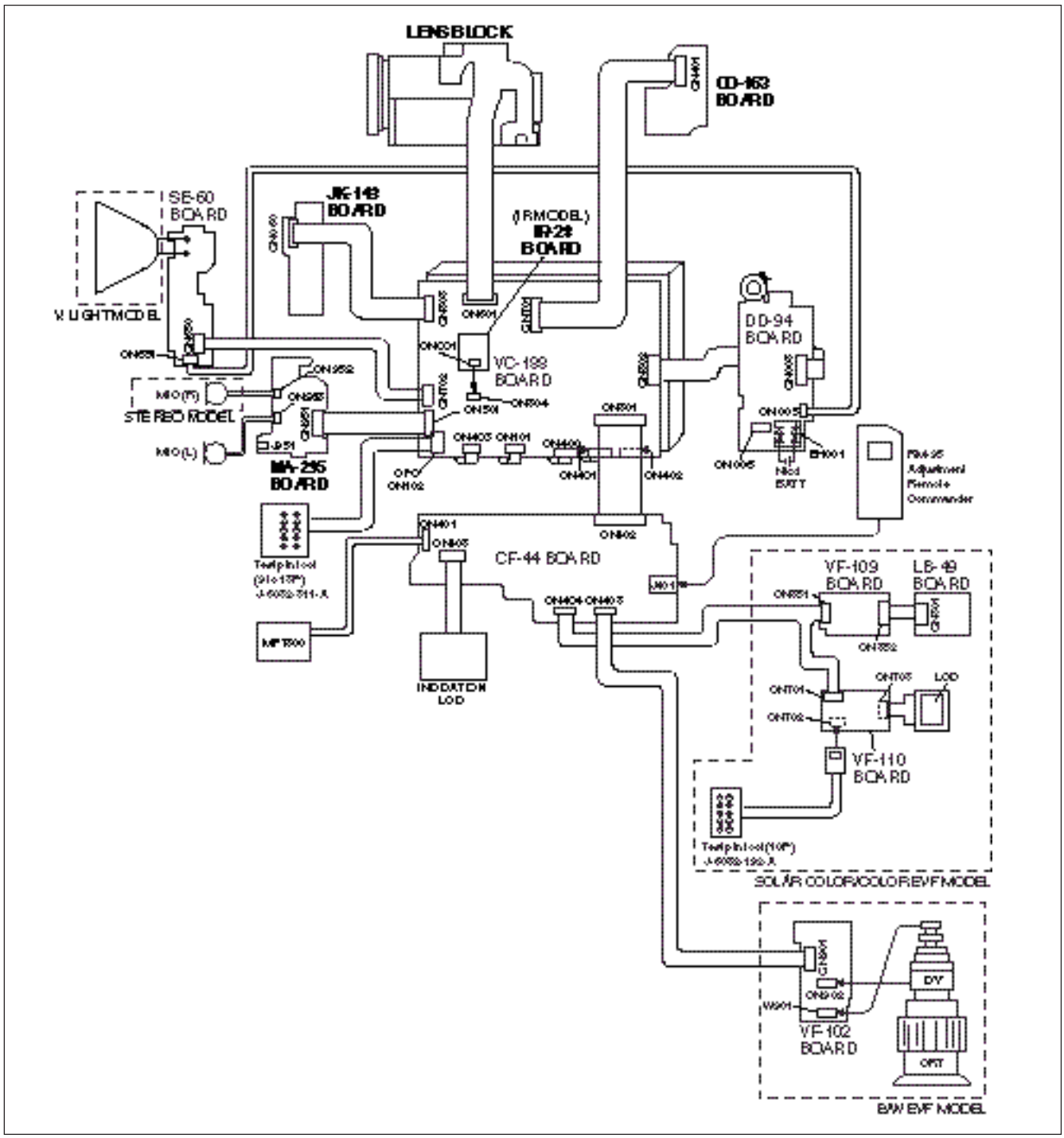


Fig. 6-1-5.

1-1-4. Adjustment remote commander (RM-95 upgraded)

To perform adjustment, the adjustment data stored in the non-volatile memory must be rewritten using the adjustment remote commander (RM-95 upgraded).

The adjustment remote commander uses the remote commander signal line (LANC) to interactively communicate with the merchandise. The page, address and up/down command data are sent from the adjustment remote commander to the merchandise. In return, the page, address and data are sent to the adjustment remote commander from the merchandise.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to the LANC terminal (CF-44 board J000).
2) Set the NOR-ADJ (or HOLD) switch of the adjustment remote commander to the "ADJ" (or ON) (service) position.
   If the adjustment remote commander is correctly connected, the adjustment remote commander's LED will show the display as shown in Fig. 6-1-6.
3) Bit value discrimination
   It is necessary to discriminate between the bit values with the data displayed on the adjustment remote commander for all following items. Identify whether the bit value is "1" or "0" with the use of the following diagram.

Fig. 6-1-6.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (R)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

(Example) If "8E" is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the 'A' column, and the bit values for bit3 to bit0 are shown in the 'B' column.

4) The adjustment remote controller is operated as follows:

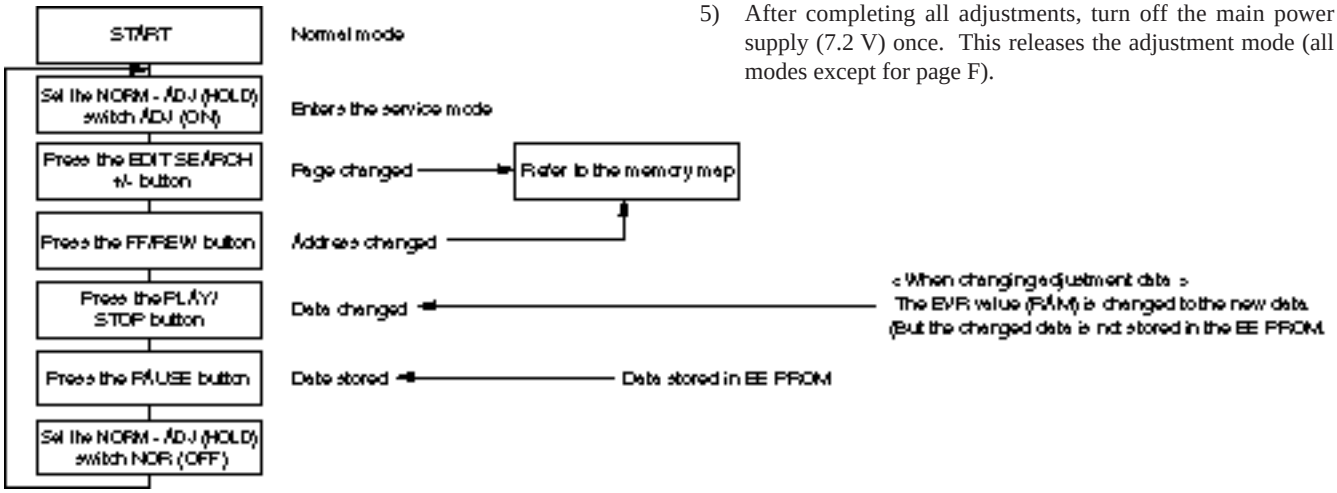
- Changing the page
  The pages increase when the EDIT SEARCH (+) button is pressed and decrease when the EDIT SEARCH (–) button is pressed. Altogether there are 16 pages from page “0” to page “F”.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD display	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Decimal notation after conversion	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

- Changing the address
  The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. Altogether there are 256 addresses from address “00” to address “FF”. Some addresses, which are not used during adjustment, do not appear.
- Taking note the already-stored adjustment data
  The previous adjustment can be erased if the adjustment remote commander is incorrectly handled. To prevent this, it is recommended that all the stored adjustment data be noted down on the attached page F address list.
- Changing the data (Data setting)
  The data increases when the PLAY (►) button is pressed, and decreases when the STOP (■) button is pressed. Altogether there 256 data from data “00” to data “FF”.
- Storing the data
  Press the PAUSE button to store the adjustment data (page F) into the non-volatile memory.
  (If the PAUSE button is not pressed after completing the adjustment, the new adjustment data will not be stored in the non-volatile memory.)

5) After completing all adjustments, turn off the main power supply (7.2 V) once. This releases the adjustment mode (all modes except for page F).

[Sequence of Service Models Using the Adjustment Remote Commander]


START
Normal mode
Set the NORM - ADJ (HOLD) switch ADJ (ON)
Enters the service mode
Press the EDIT SEARCH +/- button
Page changed
Refer to the memory map
Press the FF/REW button
Address changed
Press the PLAY/ STOP button
Data changed
< When changing adjustment data >
The EVR value (RAM) is changed to the new data.
(But the changed data is not stored in the EE PROM.
Press the PAUSE button
Data stored
Data stored in EE PROM
Set the NORM - ADJ (HOLD) switch NOR (OFF)

Command Name	Command Function	Normal LANC Command
Page Up	Page + 1	Edit Search +
Page Down	Page – 1	Edit Search –
Direct Page Set	Sets the specified page	Event Clear
Address Up	Address + 1	Fast Forward
Address Down	Address – 1	Rewind
Data Up	Data + 1	Play Back
Data Down	Data – 1	Stop
Store	Stores data in the EE PROM.	Pause

2. Precautions when using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data which has already been stored in the memory. To prevent this, it is recommended that all adjustment data is noted down on the attached page F address list before starting adjustments in addition to all new adjustment data after the completion of each adjustment step.

1-1-5. Page F Address List

Note 1 : The initial value of the adjustment data is the data immediately after execution of Pages E and F data initialization, and Page F data modification. They are different from the value after all adjustments are executed.

Note 2 : When the arrow mark ← is shown in the memo column of the adjustment data, it indicates that the data of that address is the fixed data (fixed to the initial value).

Note 3 : ∗: Refer to "5. Page F Data Modification". The data following the asterisk (∗) mark indicates the initial data.

Address	Adjustment Data	
	Initial Value	Memo Column
00	00	←
01	00	←
02	00	←
03	*	←
04	*	←
05	*	←
06	*	←
07	00	←
08	*	←
09	00	←
0A	00	←
0B	00	←
0C	00	←
0D	00	←
0E	00	←
0F	00	←
10	00	←
11	00	←
12	00	←
13	00	←
14	00	←
15	00	←
16	00	←
17	*	←
18	*	←
19	00	←
1A	*	←
1B	*	←
1C	*	←
1D	48	←
1E	03	←
1F	*	←
20	*	←
21	00	←
22	00	
23	0C	
24	00	
25	0C	
26	*	
27	*	
28	*	
29	*	
2A	*	
2B	80	

Address	Adjustment Data	
	Initial Value	Memo Column
2C	40	
2D	40	
2E	80	
2F	9E : PAL, B9 : NT	
30	68 : PAL, 53 : NT	
31	7E : PAL, 7D : NT	
32	85	
33	64	
34	80	
35	AD : PAL, 9E : NT	
36	9E : PAL, 8E : NT	
37	87 : PAL, 85 : NT	
38	*	
39	*	
3A	*	
3B	*	
3C	58	
3D	60	
3E	48	
3F	40	
40	80	
41	80	
42	40	
43	00	
44	2D	
45	D3	
46	2D	
47	*	←
48	*	←
49	00	
4A	3C	
4B	00	
4C	3E	
4D	E0	←
4E	8F	
4F	6C	
50	36	
51	3C	
52	A6	
53	1A	
54	15	
55	24	
56	8B	
57	11	

PAL : 510 → CCD : 510 H type, PAL model
NT : 510 → CCD : 510 H type, NTSC model
PAL : 760 → CCD : 760 H type, PAL model
NT : 760 → CCD : 760 H type, NTSC model

510H type : EXCEPT TR96/TR916/TR620E/TR720E/TR740E
760H type : TR96/TR916/TR620E/TR720E/TR740E

Address	Adjustment Data	
	Initial Value	Memo Column
58	25	
59	19	
5A	80	
5B	80	
5C	80	
5D	80	
5E	80	
5F	*	←
60	*	←
61	*	←
62	*	←
63	*	←
64	*	←
65	*	←
66	*	←
67	*	←
68	*	←
69	*	←
6A	*	←
6B	*	←
6C	*	←
6D	*	←
6E	*	←
6F	*	←
70	*	←
71	*	←
72	80	←
73	80	←
74	*	←
75	1A : PAL/510 17 : NT/510 1A : PAL/760 19 : NT/760	←
76	*	←
77	*	←
78	*	←
79	*	←
7A	A2 : PAL/510 A2 : NT/510 A1 : PAL/760 A2 : NT/760	←
7B	*	←
7C	*	←
7D	41 : PAL/510 46 : NT/510 20 : PAL/760 20 : NT/760	←
7E	*	←

Address	Adjustment Data	
	Initial Value	Memo Column
7F	*	←
80	*	←
81	*	←
82	*	←
83	*	←
84	*	←
85	*	←
86	83	←
87	67	←
88	*	←
89	5C	←
8A	4A	←
8B	*	←
8C	5C	←
8D	*	←
8E	33	←
8F	* A0: V. LIGHT/NT A2 : V. LIGHT/PAL	←
90	*	←
91	*	←
92	28 : PAL/510 30 : NT/510 28 : PAL/760 30 : NT/760	←
93	1A : PAL/510 20 : NT/510 1A PAL/760 20 : NT/760	←
94	6A	←
95	58	←
96	*	←
97	33	←
98	*	←
99	04	←
9A	A2	←
9B	88	←
9C	65	←
9D	44	←
9E	55	←
9F	04	←
A0	1F	←
A1	20	
A2	*	←
A3	B0	←
A4~CB		←
CC~E3		←
E4~EF	00	
F0~FF		

1-2. CAMERA SYSTEM ADJUSTMENTS

1. Adjustment points when major parts have been replaced

When the CCD imager or lens block is replaced, adjust the items indicated by ○ in the following table.

	When the CCD imager is replaced	When the lens block is replaced
HALL adjustment		○
Flange back adjustment	○	○
IRIS IN/OUT adjustment	○	○
MAX GAIN adjustment	○	
Color reproduction adjustment	○	
Auto white balance reference data input	○	
Auto white balance adjustment	○	

2. Power supply voltage check (VC-188 board)

Subject	Any subject
Measuring equipment	Digital voltmeter
DIG3V check	
Measurement Point	CN301 ㉓ Pin (CN301 ⑭, ⑮ Pin: MT GND)
Specification Value	3.15 ± 0.1Vdc
MT5V check	
Measurement Point	CN301 ⑯ Pin (CN301 ⑭, ⑮ Pin: VTR GND)
Specification Value	4.70 ± 0.15Vdc
CAM15V check	
Measurement Point	CN701 ⑬ Pin (CN701 ⑯ Pin: GND)
Specification Value	14.95 ± 0.4Vdc
CAM –7.5V check	
Measurement Point	CN701 ⑩ Pin (CN701 ⑯ Pin: GND)
Specification Value	–7.2 ± 0.5Vdc

Check procedure

1) Check that all power supply voltages satisfy the specified value. If not, refer to “Video circuit, Power supply block adjustment”.

3. Preparation for adjustment

Objective: Make sure that the camera can be operated from the LANC line even if the mode control microprocessor’s A/D port is left open.

Mode	Any Mode
Measuring Equipment	Remote controller RM-95 upgraded for LANC
Adjustment Page	Page 6, page F
Adjustment Address	00, 02

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the main power switch ON.
2	6	00	01	After setting the data, press the PAUSE button.
3	F	02	21	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button.

Note 1 : If data 01 is set to page 6, address 00, the adjustment for page F, address 01 to A3 can also be performed.

Note 2 : When all adjustments of the camera system is completed, set data 00 to the page F, address 02.

4. Initialization of page F data

Note 1 : Execute the initialization of page F only when the non-volatile memory (VC-188 board IC401 EE PROM) is replaced.

Note 2 : If the page F data has been initialized, all adjustment items of the camera section must be executed again.

Initializing procedure:

Order	Page	Address	Data	Procedure
1				Turn OFF and ON the main power supply. (Preparation)
2	6	00	01	After setting the data 01 to the address, press the PAUSE button.
3	6	11		Confirm that the data is 00.
4	6	01	2D	After setting the data, Press the PAUSE button. (Execution of page F data initialization. By this operation, all the data from address 01 to EF are initialized.)
5	6	11		Confirm that the data is 01.

Works required after initialization

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, Press the PAUSE button.
2	6	00	00	After setting the data, Press the PAUSE button. (End)
3				Perform the next item “5. Page F Data Modifications”, then execute all adjustment items of the camera section.

Related Adjustments:

All adjustments of camera block.

5. Page F data modification

All the data of page F are automatically initialized if the initialization is executed. However, among the initialized data, the following addresses require manual modification of data after the page F data is initialized.

Modification procedure:

Address	Data														
	TR86	TR96	TR506	TR507	TR916	TR501E		TR502E		TR503E	TR506E	TR620E		TR720E	TR740E
	—	—	—	—	—	AEP	E/AUS/HK	E	AEP	—	—	AEP	UK	—	—
03	02	←	03	←	02	04	05	04	←	05	←	04	←	05	←
04	D1	E1	D5	←	E1	91	←	D1	←	91	D5	E1	←	E5	←
05	54	←	←	←	←	54	←	54	←	←	←	←	←	←	←
06	2C	←	0C	2C	←	04	←	04	←	0C	←	04	←	0C	2C
08	00	←	←	←	←	04	←	04	←	←	←	←	←	←	←
17	00	—	05	←	09	05	←	05	←	←	←	06	←	07	←
18	86	96	06	07	16	01	←	02	←	03	06	20	←	←	40
1A	00	←	01	01	00	←	←	01	00	←	01	00	01	←	←
1B	30	←	80	←	30	15	←	80	30	15	80	30	80	←	←
1C	07	←	←	←	←	←	←	07	←	←	←	←	←	←	←
1F	06	07	06	←	07	00	←	06	←	00	06	07	←	←	←
20	64	04	64	←	04	74	←	74	←	←	74	04	←	←	←
26	A1	←	←	←	←	←	←	A1	←	←	←	←	←	←	←
27	98	←	←	←	←	←	←	98	←	←	←	←	←	←	←
28	95	←	←	←	←	←	←	95	←	←	←	←	←	←	←
29	90	←	←	←	←	←	←	90	←	←	←	←	←	←	←
2A	8A	←	←	←	←	←	←	8A	←	←	←	←	←	←	←
38	DD	←	←	←	←	D8	←	D8	←	←	←	←	←	←	←
39	DD	←	←	←	←	D8	←	D8	←	←	←	←	←	←	←
3A	DD	←	←	←	←	C6	←	C6	←	←	←	←	←	←	←
3B	DD	←	←	←	←	C1	←	C1	←	←	←	←	←	←	←
47	FE	←	FF	←	FE	FF	←	FF	←	←	←	←	←	←	←
48	FC	←	F4	←	FC	F1	←	F1	←	←	←	F4	←	←	←
5F	CA	←	←	←	←	AA	←	AA	←	←	←	←	←	←	←
60	AC	←	←	←	←	8C	←	8C	←	←	←	←	←	←	←
61	99	←	77	←	99	←	←	99	←	←	77	99	←	77	←
62	99	←	←	←	←	55	←	55	←	←	←	←	←	←	←
63	77	←	←	←	←	7B	←	7B	←	←	←	←	←	←	←
64	77	←	←	←	←	78	←	78	←	←	←	←	←	←	←
65	76	←	←	←	←	92	←	92	←	←	←	←	←	←	←
66	76	←	←	←	←	91	←	91	←	←	←	←	←	←	←
67	77	←	←	←	←	80	←	80	←	←	←	←	←	←	←
68	20	←	←	←	←	←	←	20	←	←	←	←	←	←	←
69	20	←	←	←	←	←	←	20	←	←	←	←	←	←	←
6A	A0	←	←	←	←	←	←	A0	←	←	←	←	←	←	←
6B	A0	←	←	←	←	3C	←	3C	←	←	←	←	←	←	←
6C	6E	←	←	←	←	←	←	6E	←	←	←	←	←	←	←
6D	6E	←	←	←	←	1B	←	1B	←	←	←	←	←	←	←
6E	8D	←	←	←	←	8A	←	8A	←	←	←	←	←	←	←
6F	8F	←	←	←	←	80	←	80	←	←	←	←	←	←	←
70	98	←	←	←	←	80	←	80	←	←	←	←	←	←	←
71	80	←	←	←	←	90	←	90	←	←	←	←	←	←	←
74	4A	←	←	4A	←	4C	←	4C	4C	←	←	←	←	←	←
75	1B	1C	20	←	1C	21	←	21	←	←	←	1F	←	←	←
76	40	42	45	←	42	46	←	46	←	←	←	3A	←	←	←
77	48	36	48	←	36	48	←	48	←	←	←	46	←	←	←
79	25	26	←	25	26	←	←	26	←	←	←	←	←	←	←
7A	B6	BA	B6	←	BA	B1	←	B4	B4	B1	B4	78	←	←	←
7B	A3	C3	A3	←	C3	B3	←	B3	←	←	←	C3	←	←	←
7C	B2	B1	B2	←	B1	81	←	81	←	←	←	82	←	←	←
7D	46	20	46	←	20	41	←	BA	←	←	←	20	←	←	←
7E	09	00	09	←	00	09	←	09	←	←	←	00	←	←	←
7F	66	←	←	←	←	←	←	66	←	←	←	←	←	←	←

Fig 6-1-7 (a)

← : Same data as that of the left column

Address	Data														
	TR86	TR96	TR506	TR507	TR916	TR501E		TR502E		TR503E	TR506E	TR620E		TR720E	TR740E
	—	—	—	—	—	AEP	E/AUS/ HK	E	AEP	—	—	AEP	UK	—	—
80	05	01	05	←	01	05	←	05	←	←	←	03	←	←	←
81	66	6B	66	←	6B	66	←	66	←	←	←	6B	←	←	←
82	9F	←	←	←	←	←	←	9F	←	←	←	←	←	←	←
83	62	←	66	←	62	66	←	62	←	66	←	←	←	←	←
84	66	6C	66	←	6C	66	←	66	←	←	←	6C	←	←	←
85	57	←	59	←	57	59	←	57	←	59	←	5C	←	←	←
88	64	←	5D	←	64	5D	←	64	←	5D	64	5D	←	←	←
8B	20	←	←	←	←	←	←	20	←	←	←	←	←	←	←
8D	3A	3C	3A	←	3C	3A	←	3A	←	←	←	3C	←	←	←
8F	A0	←	20	←	A0	22	←	22	←	←	←	←	←	←	←
90	1B	←	←	←	←	←	←	1B	←	←	←	←	←	←	←
91	E8	D0	F0	←	D0	F0	←	F0	←	←	←	←	←	←	←
92	30	←	←	←	←	28	←	28	←	←	←	←	←	←	←
93	20	←	←	←	←	1A	←	1A	←	←	←	←	←	←	←
96	64	←	←	←	←	←	←	64	←	←	←	←	←	←	←
98	0F	←	04	04	0F	04	←	04	←	←	←	←	←	←	←
A2	8A	←	DA	←	8A	←	←	DA	8A	←	DA	8A	DA	←	←
F0	CF	D1	CF	←	D1	CE	CE	D0	←	CE	D0	D2	←	04	←
F1	03	←	04	←	03	02	04	02	←	04	←	02	←	←	←
F5	B8	←	A8	←	B8	A8	←	A8	←	←	←	B8	←	←	←
F6	5E	←	←	←	←	←	←	5E	←	←	←	←	←	←	←

Fig 6-1-7 (b)

← : Same data as that of the left column

6. 28MHz crystal oscillator adjustment (VC-188 board)

Purpose : Adjusts 28MHz crystal controlled oscillation for synchronizing clock.

Adjustment error : Loss of synchronization or loss of color.

Subject	Not required
Measurement Point	IC201 ㊹ pin
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3D
Specification	4433618.75 ± 17Hz (PAL) 3579545 ± 17Hz (NTSC)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	3D		Change the data using PLAY, STOP buttons until the frequency satisfies the specification.
3	F	3D		Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

Reference: Conversion between the hexadecimal number and decimal number.

In some adjustment items, data appears in hexadecimal numbers on the DDS display or on the adjustment remote commander. Maintenance engineers are expected to convert the displayed hexadecimal numbers to the corresponding decimal numbers using the following conversion table.

Make a required calculation described in each adjustment item. Then re-convert the result of calculation back from the decimal numbers to the corresponding hexadecimal numbers using the following conversion table.

Hexadecimal-decimal Conversion Table

Upper digit of hexadecimal \ Lower digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (:)	B (;)	C (<)	D (=)	E (>)	F (?)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (:)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (;)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (<)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (=)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (>)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (?)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

② (column header)

Note : The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.
(Example) If the DDS display or the adjustment remote commander shows BD (;=),
Because the upper digit of the adjustment number is B (;), and the lower digit is D (=), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

〈How to convert the decimal number to hexadecimal number〉
The decimal numbers are divided into following three categories. Calculation method is different in three categories respectively.

(1) 0 ~ 255 → 00h ~ FFh
(2) 256 ~ 4095 → 0100h ~ 0FFFh
(3) 4096 ~ 65536 → 1000h ~ FFFFh

If the decimal number fall into the category (1);

1) Divide the decimal number by 16. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A–B) ×16. Result is "C".
4) "B" is the second digit number of the hexadecimal number and "C" is the first digit number of the hexadecimal number. (BC)h

(Example)
If the decimal number is "189";

1) 189 ÷ 16 = 11.8125 ····· (A)
2) (B)
3) (11.8125–11) ×16 =13 ····· (C)
4) 189 → (BD)h is obtained.

If the decimal number fall into the category (2);

1) Divide the decimal number by 256. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A-B) × 256. Result is "C".
4) Take the integer portion of the number "C" as "D".
5) Calculate the equation (C-D) ×16. Result is "E".
6) "B" is the third digit number, "D" is the second digit number and "E" is the first digit number of the hexadecimal number. (BDE)h

(Example)
If the decimal number is "2100";

1) 2100 ÷ 256 = 8.203125 ····· (A)
2) (B)
3) (8.203125 – 8) × 256 ÷16 = 3.25 ····· (C)
4) (D)
5) (3.25–3) ×16 = 4 ····· (E)
6) 2100 → (834)h is obtained.

If the decimal number fall into the category (3);

1) Divide the decimal number by 4096. Result is "A".
2) Take the integer portion of the number "A" as "B".
3) Calculate the equation (A–B) × 4096 ÷ 256. Result is "C".
4) Take the integer portion of the number "C" as "D".
5) Calculate the equation (C–D) ×256÷16. Result is "E".
6) Take the integer portion of the number "E" as "F".
7) Calculate the equation (E–F) ×16. Result is "G". (Round the number "G" to count fractions of 0.5 and over as a unit and cut away the rest.)
8) "B" is the fourth digit number, "D" third digit number, "F" is the second digit number and "G" is the first digit number of the hexadecimal number. (BDFG)h

(Example)
If the decimal number is "31814";

1) 31814 ÷ 4096 = 7.7670898 ····· (A)
2) (B)
3) (7.7670898 – 7) × 4096 ÷ 256 = 12.273436 ····· (C)
4) (D)
5) (12.273436 – 12) × 256 ÷ 16 = 4.374976 ····· (E)
6) (F)
7) (4.374976–4) × 16 = 5.999616
(Round the number to count fractions of 0.5 and over as a unit and cut away the rest.)
8) 6 ·····
9) 31814 → (7C46)h is obtained.

〈How to convert the hexadecimal number to decimal number〉
If the hexadecimal number is (ABCD)h, the decimal number is calculated by the following equation.
(A×4096) + (B×256) + (C×16) + (D×1) = decimal number

(Example) If the hexadecimal number is "(3BA4)h":
(3×4096) + (11×256) + (10×16) + (4×1)=15268

7. HALL adjustment

Purpose : Variation of the HALL element outputs is removed by adjusting amplifier gain and offset. The HALL elements detect the lens iris position.

Adjustment error : Oscillation of lens iris, or incorrect white balance indoor and outdoor.

Subject	Not required
Measurement Point	DDS display on the EVF or monitor
Measuring Instrument	TV
Adjustment Page	F
Adjustment Address	40 41
Specification	13h to 17h when iris is opened. 79h to 7Dh when iris is closed.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	02	21	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	01	After setting the data, press the PAUSE button.
5	6	02	03	After setting the data, press the PAUSE button.
6	6	01	03	After setting the data, press the PAUSE button.
7	F	40	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is W_2.
8	F	40	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is W_1.
9	6	01	01	After setting the data, press the PAUSE button.
10	F	40	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is K_1.
11	F	40	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display note. The read-out data is K_2.
12				Convert the data W_1, W_2, K_1 and K_2 into the decimal numbers. The result decimal numbers are W_1', W_2', K_1' and K_2'. (Use page 6-13 ⟨How to convert the hexadecimal number to decimal number⟩ or “Hexadecimal-Decimal Conversion Table”.) Calculate the following equation (decimal number calculation) to obtain X_1'.
13				$A' = W_2' + K_1' - W_1' - K_2'$ ..... equation 1 $B' = W_1' - K_1'$ ..... equation 2 $X_1' = \frac{1600 + (48 \times A') - (16 \times B')}{A'}$ ..... equation 3
14				Convert the decimal number X_1' to the hexadecimal number to obtain X_1. (Round the number X_1 to count fractions of 0.5 and over as a unit and cut away the rest.)
15	F	40		Set the data X_1 (obtained at step 14).
16				Press the PAUSE button.
17	F	41		Change the data using the PLAY and STOP until 15h appears on the DDS display.
18				Press the PAUSE button.
19	6	01	03	After setting the data, press the PAUSE button.
20				If the DDS display shows the data in the range from 79h to 7Dh, it indicates the end of adjustment, and proceed to the item “Processing after Adjustments”. If it is not, use the DDS display data as W_0 and proceed to step 21 and followings.

Note : Lower two digits of the data which is displayed at the right bottom of he EVF or TV monitor

Order	Page	Address	Data	Procedure
21				Convert the value W_0 to a decimal value to obtain the value W_0'.
22				Calculate the value X_2' from the following equation (decimal calculation). $C' = W_0' + K_1' - W_1' - 20$ ..... equation 4 $X_2' = \frac{(100 - B') \times (X_1' - 48) + (48 \times C')}{C'}$ ..... equation 5 (The values X_1' and B' are obtained from the equations 2 and 3 in step 13.)
23				Convert the value X_2' to a hexadecimal number to obtain X_2. (Round the number X_2 to count fractions of 0.5 and over as a unit and cut away the rest.)
24	F	40		Set the data X_2 (which is the result of calculation in step 23).
25				Press the PAUSE button.
26	F	41		Change data using PLAY and STOP button until 7Bh appears on the DDS display.
27				Press the PAUSE button.
28	6	01	01	After setting the data, press the PAUSE button.
29				Confirm that the DDS display shows the data in the range from 13 to 17.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	02	00	After setting the data, press the PAUSE button.
2	6	01	00	After setting the data, press the PAUSE button.
3	F	02	00	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button. (End)

Related adjustments:
"IRIS IN/OUT adjustment"

8. Flange back adjustment

Purpose : Automatic flange back adjustment of inner focus lens.

Adjustment error : Loss of focus when switched between auto focus and manual focus.

Subject	Chart for flange back adjustment (Placed 2000 ± 5 mm in front of the lens with illumination of 300 ± 50 lux.)
Measurement Point	Confirm the focus on monitor TV.
Measuring Instrument	
Adjustment Page	F
Adjustment Address	52, 53 54, 55 56, 57 58, 59

(Chart for flange back adjustment)
(See page 6-2)

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Check that the center of the flange back adjustment chart coincides with that of the display on the monitor at both ends: TELE end and the WIDE end of the zoom lens.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3				Confirm that the data at page F, address 52 to 59 is the initial value, referring to the “Page F address list”.
4	6	11		Confirm that the data is 00.
5	6	42	02	After setting the data, press the PAUSE button.
6	6	43	01	After setting the data, press the PAUSE button.
7	6	01	13	After setting the data, press the PAUSE button.
8	6	01	15	After setting the data, press the PAUSE button. The adjustment data is automatically input to page: F, addresses : 52 to 59.
9	6	11		Confirm that the data is 01.
10	6	42	00	After setting the data, press the PAUSE button.
11	6	43	00	After setting the data, press the PAUSE button.
12	6	01	00	After setting the data, press the PAUSE button.

Processing after Adjustments:

Order	Procedure
1	Turn the main power supply (7.2 V) OFF, then ON. (If this step is not performed, the camera will be out of focus.)

9. Flange back check

Subject	Siemens star (Placed 2000 ± 5 mm in front of the lens with illumination of about 200 lux.)
Measurement Point	Confirm focus on monitor TV
Measuring Instrument	
Specification Value	Picture must have good focus at both TELE and WIDE ends.

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Note 3 : It is judged from the page A display on the adjustment remote commander if the picture has good focus while the auto focus is ON.

1) Set data: 0B to the page:6, address: 02.
2) Focus condition can be known from the page A display.

A: 00 : XX

See the right table.

(Bit 2 value 0 : Picture is out of focus.
1 : Picture is in focus.)

Display on the adjustment remote commander	Bit values bit2
0	0
1	0
2	0
3	0
4	1
5	1
6	1
7	1
8	0
9	0
A(R)	0
B(b)	0
C(C)	1
D(d)	1
E(E)	1
F(F)	1

In focus

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Place a Siemens star at 2 meters in front of lens.
2				Decrease illumination to the chart down to a point before noise appears on monitor TV, in order to fully open the IRIS.
3	6	42	02	After setting the data, press the PAUSE button.
4	6	43	01	After setting the data, press the PAUSE button.
5				Shoot the Siemens star at TELE end.
6				Confirm that the image is in focus. (Note 3).
7	6	21	10	After setting the data, press the PAUSE button.
8				Shoot the Siemens star at WIDE end.
9				Confirm that the image is in focus.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	02	00	After setting the data, press the PAUSE button.
2	6	21	00	After setting the data, press the PAUSE button. (END)
3	6	42	00	After setting the data, press the PAUSE button.
4	6	43	00	After setting the data, press the PAUSE button.

10. Picture frame setting

Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Oscilloscope and monitor TV
Specification Value	A=B, C=D, t=0 ± 0.1msec

Note 1 : Confirm that the "Camera-shaking" correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

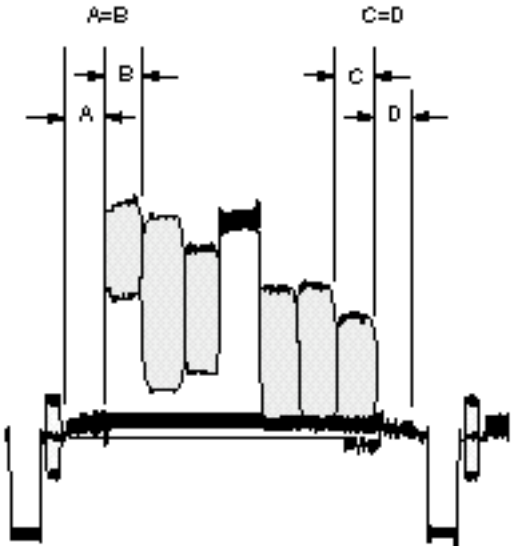
Note 2 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Setting procedure:

Order	Procedure
1	Turn OFF the auto focus.
2	Adjust the focus using the focus knob.
3	Adjust direction and zoom of camera so that the picture frame is adjusted as specified by Fig. 6-1-8 and Fig. 6-1-9.
4	Write down markings on the picture frame on the monitor screen. If the "color bar chart standard picture frame" or "white pattern standard picture frame" is specified in the following adjustment items, obtain this picture frame.

Confirm with an oscilloscope

1. Horizontal rate



2. Vertical rate

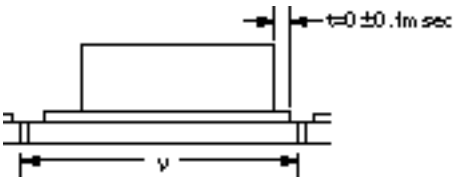


Fig. 6-1-8

Confirm on TV monitor (underscanned display)

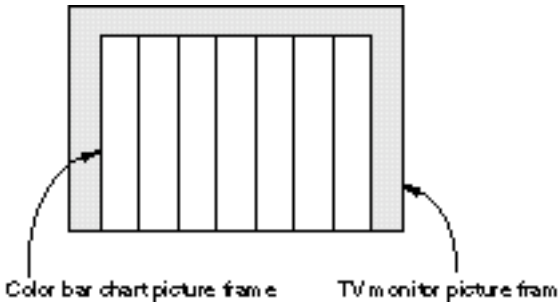


Fig. 6-1-9

11. Color reproduction adjustment

Purpose : Adjust the three primary color matrix coefficients for correct color reproduction.

Adjustment error : Poor color reproduction.

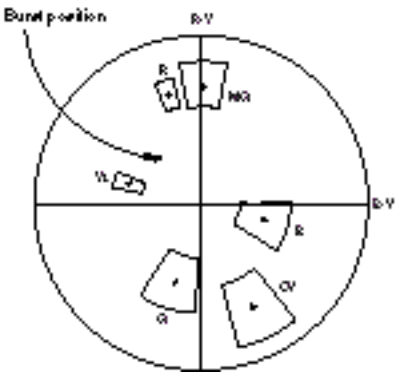
Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	43, 44, 45, 46
Specification Value	Each spot must be located within the specified color reproduction zone on a vectorscope display.

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

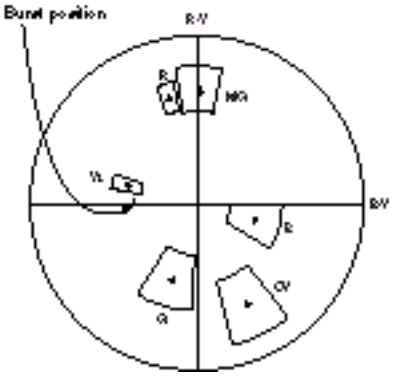
Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Adjustment procedure:

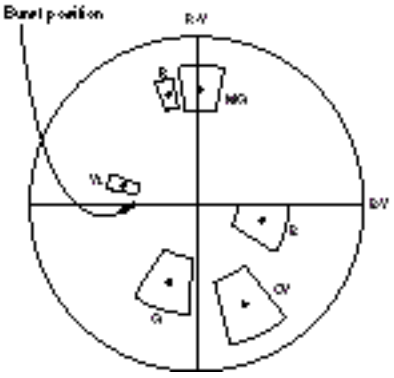
Order	Page	Address	Data	Procedure	Condition
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)	
2	6	42	02	After setting the data, press the PAUSE button.	
3	6	03	00	After setting the data, press the PAUSE button. (Setting)	
4	F	80		Take note of the data.	
5	F	80	00	After setting the data, press the PAUSE button.	
6	6	01	37	After setting the data, press the PAUSE button.	
7	F	43, 44 45, 46		Change the data so that red, yellow, magenta, green, cyan and blue spot must be located within the specified color reproduction zone on a vectorscope display. Press the PAUSE button for each address.	Weighting OFF mode.



PAL (510H/760H) MODEL



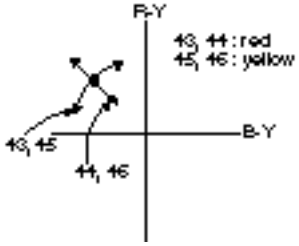
NTSC (510H) MODEL



NTSC (760H) MODEL

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	42	00	After setting the data, press the PAUSE button.
2	6	01	00	After setting the data, press the PAUSE button.
3	F	80		Set the data which is noted in step 4, then press the PAUSE button.
4	6	03	10	After setting the data, press the PAUSE button. (Setting)
5	6	00	00	After setting the data, press the PAUSE button. (End)



Related Adjustments:

“Auto white balance reference data input”

“Auto white balance adjustment”

12. IRIS IN/OUT adjustment

Purpose : Measure the light level and write into EE PROM for indoor/outdoor identification in auto white balance.

Adjustment error : Incorrect white balance.

Subject	White pattern standard picture frame
Measurement Point	EVF or DDS display of monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	50 51

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	02	21	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	01	After setting the data, press the PAUSE button.
5	6	11		Confirm that the date is 00.
6	6	01	4B	After setting the data, press the PAUSE button.
7	6	01	49	After setting the data, press the PAUSE button.
8	6	11		If data is 01, this is the end of data read. The data of page F, address 50 and 51 are automatically input to this memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	F	02	00	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.
4	6	00	00	After setting the data, press the PAUSE button. (End)

13. Auto white balance reference data input

Subject	White pattern standard picture frame
Adjustment Page	F
Adjustment Address	4A, 49 4C, 4B

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Note 3 : The “Color reproduction adjustment” must have been completed before making this adjustment.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the main power OFF then to ON.
2				Shoot a white pattern with the standard picture frame.
3	6	00	01	After setting the data, press the PAUSE button.
4	6	11		Confirm that data is 00.
5	6	01	11	After setting the data, press the PAUSE button.
6	6	01	0D	After setting the data, press the PAUSE button. (Executes the auto white balance reference data input.)
7	6	11		If data is 01, this is the end of data read. The data of page F, address 49 to 4B are automatically input to this memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2				Execute “Auto white balance adjustment”.
3	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustments:

Auto white balance adjustment

14. MAX gain adjustment

Purpose : Sets the minimum illumination level.
Adjustment error : Normal video level cannot be obtained at low illumination (dark).

Subject	White pattern standard picture frame
Measurement Point	Data of the page A of the adjustment remote commander
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	42
Specification Value	Confirm that the data of page A of the adjustment remote commander is B0h or more.

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)
Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	02	01	After setting the data, press the PAUSE button.
3	6	42	02	Steady shot model only. After setting the data, press the PAUSE button.
4	6	04	58	After setting the data, press the PAUSE button.
5	6	01	19	After setting the data, press the PAUSE button.
6	F	42	08	After setting the data, press the PAUSE button.
7				Confirm that the data of page A of the adjustment remote commander is B0h or more.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	04	00	After setting the data, press the PAUSE button.
4	6	42	00	Steady shot model only. After setting the data, press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

15. Auto white balance adjustment

Purpose : Adjust for correct auto white balance.
Adjustment error : Poor color reproduction.

Subject	White pattern standard picture frame
Filter	Color temperature correction filter C14
Measurement Point	EVF or DDS display on monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E, 4F
Specification Value	R ratio = 2XX0h ± 40h XX = Data at address : F5 on page F (For example, when the data XX is B8, the R ratio is 2B80h ± 40h) B ratio = YY80h ± 80h YY = Data at address : F6 on page F (For example, when the data YY is 5Eh, the B ratio is 5E80h ± 80h)

Note 1 : Make this adjustment after "Auto white balance reference data input" is completed.
Note 2 : Confirm that the "Camera-shaking" correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)
Note 3 : Confirm that the "Digital Zoom" is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Put on the color temperature correction filter C14 on the lens.
2	F	F5		Read the data of this address. The read-out data should be used as the specification value calculation data XX.
3	F	F6		Read the data of this address. The read-out data should be used as the specification value calculation data YY.
4	6	00	01	After setting the data, press the PAUSE button. (Preparation 1)
5	F	02	21	After setting the data, press the PAUSE button. (Preparation 2)
6				Turn off the UNREG power supply once, then turn it on.
7	6	00	01	After setting the data, press the PAUSE button.
8	6	01	35	After setting the data, press the PAUSE button.
9	6	02	04	After setting the data, press the PAUSE button. Sets the R ratio display mode.
10	F	4E		Change data using the PLAY and STOP buttons until the R ratio data on the DDS display becomes the specification value. R ratio data = 2000h + 10h × D_{F5} (D_{F5} = Page F, Address : F5 data)
11	6	02	05	After setting the data, press the PAUSE button. Sets the B ratio display mode.
12	F	4F		Change data using the PLAY and STOP buttons until the B ratio data on the DDS display becomes the specification value. B ratio data = 80h + 100h × D_{F6} (D_{F6} = Page F, Address: F6 data)
13				Press the PAUSE button.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	Releases the B ratio display mode.
3	F	02	00	After setting the data, press the PAUSE button. (End 2)
4				Turn off the UNREG power supply once, then turn it on.
5	6	00	00	After setting the data, press the PAUSE button. (End 1)

16. White balance check

Subject	White pattern standard picture frame
Filter	Color temperature correction filter C14 ND filter 1.0 and 0.3
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Specification Value	Fig. 6-1-10. A ~ C

Note 1 : Confirm that the “Camera-shaking” correction to OFF. (TR96/TR620E/TR720E/TR740E/TR916 MODEL)

Note 2 : Confirm that the “Digital Zoom” is turned OFF. (EXCEPT TR501E/TR503E MODEL)

Check procedure:

Order	Page	Address	Data	Procedure	Condition
1				Check that the lens is not covered by either filter.	
2	6	01	0F	After setting the data, press the PAUSE button.	
3				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (a).	Without filter.
4	6	01	00	After setting the data, press the PAUSE button.	
5	6	01	23	After setting the data, press the PAUSE button.	
6				Put the C14 filter on the lens.	
7				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (b).	C14 filter
8				Remove the C14 filter and put ND filter 1.3 (1.0+0.3) on the lens.	
9				Check that the white luminance point is located within the circle shown in Fig. 6-1-10 (c).	ND Filter 1.3

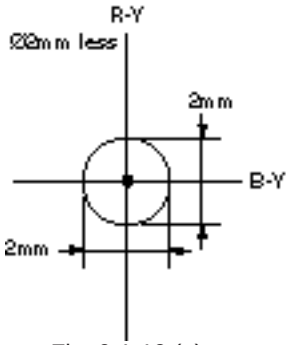


Fig. 6-1-10 (a)

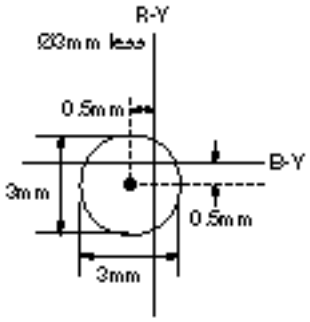


Fig. 6-1-10 (b)

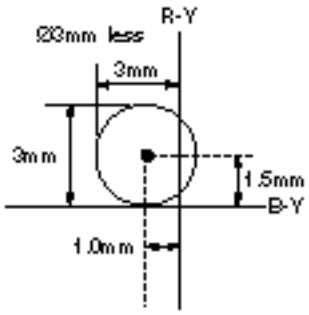


Fig. 6-1-10 (c)

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	00	00	After setting the data, press the PAUSE button. (End)

17. Velocity sensor sensitivity adjustment
(CCD-TR96/TR916 MODEL CCD-TR620E/TR720E/TR740E MODEL)

The "Velocity Sensor Sensitivity Adjustment" is necessary only when the gyro sensor is replaced. If microprocessors or circuit board is not replaced, this adjustment is not necessary. Make operation check only.

Subject	
Measurement point	VIDEO output terminal
Measuring equipment	Oscilloscope or TV monitor
Adjustment page	F
Adjustment address	5A, 5B
Specified value	Shoot an arbitrary object at TELE end, and confirm that the STEADYSHOT function works correctly.

Note 1 : Caution when replacing parts
The two types of parts : ENC05GA and ENC05GB are supplied. Use the same type of sensor as that of the defective sensor. If different type of either ENC05GA or ENC05GB is used, picture can vibrate vertically or horizontally during camera-shake correction. After replacement, make adjustment as described.

Note 2 : Caution on angular speed sensor
The angular speed sensor has high precision vibrator inside. If the sensor is dropped, balance of the vibrator is lost resulting in faulty operation. Handle the sensor carefully.

Note 3 : The sensor sensitivity is indicated on the surface of the

Adjustment procedure:

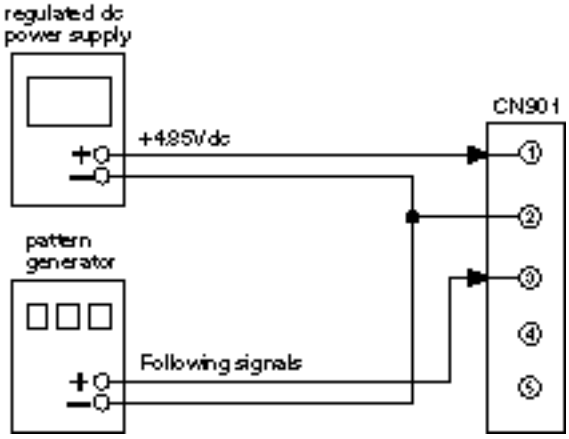
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Adjust SE651 (vertical direction correction) first : Read the sensor sensitivity value which is indicated on the replacement gyro sensor (SE651). Calculate the following equation (decimal calculation) to obtain the D_1'. (Note 3) $D_1' = \frac{95}{\text{SE651 sensor sensitivity value}}$: NTSC $D_1' = \frac{114}{\text{SE651 sensor sensitivity value}}$: PAL
3	F	5A		Round the number D_1' to count fractions of 0.5 and over as a unit and cut away the rest. Then convert the D_1' into the hexadecimal number. (Use page 6-12 ⟨How to convert the hexadecimal number to decimal number⟩ or "Hexadecimal-Decimal Conversion Table".) The result hexadecimal number is D_1. Set the data D_1 to page : F, address : 5A, and press the PAUSE button.
4				Adjust then SE650 (horizontal direction correction) : Read the sensor sensitivity value which is indicated on the replacement gyro sensor (SE650). Calculate the following equation (decimal calculation) to obtain the D_2'. (Note 3) $D_2' = \frac{95}{1.04} \times \frac{1}{\text{SE650 sensor sensitivity value}}$: NTSC $D_2' = \frac{11}{1.23} \times \frac{1}{\text{SE650 sensor sensitivity value}}$: PAL
5	F	5B		Round the number D_2' to count fractions of 0.5 and over as a unit and cut away the rest. Then convert the D_2' into the hexadecimal number. (Use page 6-12 ⟨How to convert the hexadecimal number to decimal number⟩ or "Hexadecimal-Decimal Conversion Table".) The result hexadecimal number is D_2. Set the data D_2 to page : F, address : 5B, and press the PAUSE button.
6				Shoot an arbitrary object at TELE end, and confirm that the steady shot function works correctly.
7	6	00	00	After setting the data, press the PAUSE button. (End)

18. Electronic viewfinder system adjustments (VF-102 board)

Note : About 2200V dc is applied to CRT anode and about 200 Vdc to the grid. Be careful not to touch them. If hand touches them, there is danger of electric shock

Preparation :

1. Disconnect a flexible board from CN901 on VF-102 board.
2. Connect equipments as follows.



Required signals

1. Monoscope signal
   - Output amplitude: 1.0 Vp-p (75Ω terminated)
   - Horizontal resolution: 600 TV lines or more
   - Vertical resolution: 350 TV lines or more
2. Dot pattern signal
   - Output amplitude 1.0 Vp-p (75Ω terminated)
3. Contrast signal
   - Output amplitude 0.5 Vp-p (75Ω terminated)
   - fH : 15.750kHz (NTSC) / 15.625kHz (PAL)
   - fV : 60Hz (NTSC) / 50Hz (PAL)

Others: Complies with NTSC and PAL. (Refer to Fig. 6-1-12.)

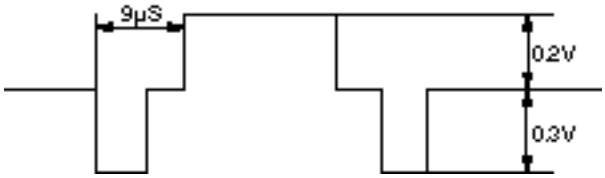


Fig. 6-1-11

18-1. Power supply voltage check

Measuring Instrument	Digital voltmeter
EVF5V	
Measurement Point	CN901 Pin ①
Specification Value	4.65 + 0.1Vdc

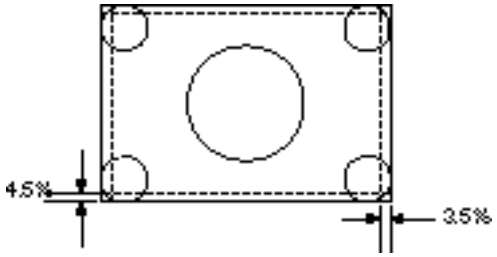
18-2. Horizontal and vertical position

Purpose : Maintains horizontal position.
Adjustment error : Horizontal position cannot be maintained.

Signal	Monoscope signal
Adjustment	RV905
Specification Value	Overscan 3.5 ± 3.5% (horizontal) (one side) Overscan 4.5 ± 1.5% (vertical)(one side)

Adjustment procedure:

Order	Procedure
1	Confirm that the horizontal and vertical picture sizes satisfy the specification values.



18-3. BRIGHT adjustment

Signal	Monoscope signal
Measurement Point	CRT screen
Adjustment	RV904
Specification Value	Each step of gray scale signal is displayed clearly.

Adjustment procedure:

Order	Procedure
1	Adjust RV904 until each step of gray scale signal is clearly display. (For the brighter region, do not increase brightness to such an extent that the cross-hatch at the center of monoscope signal becomes flared. For the dark region, do not decrease brightness to such an extent that the first step (the darkest step) and the third step cannot be identified.)

VF-102 BOARD (SIDE A)

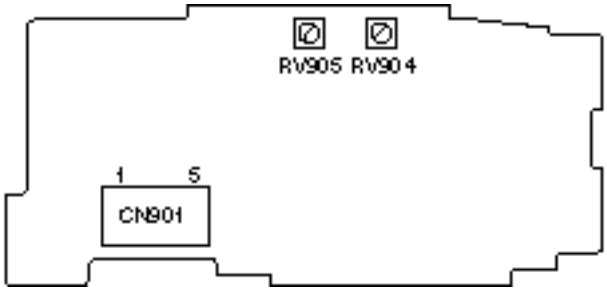
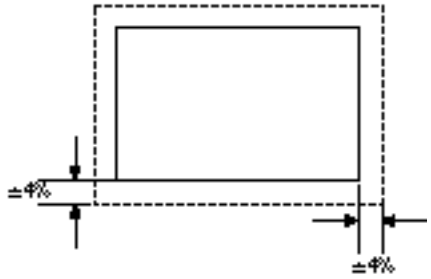


Fig 6-1-12

18-4. Centering adjustment

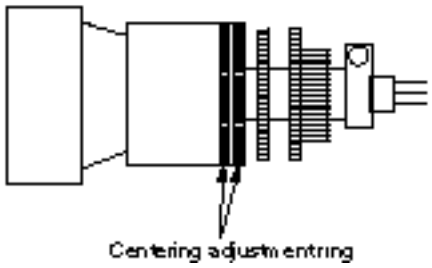
Signal	Monoscope signal
Adjustment	DY centering
Specification Value	± 4%



Adjustment procedure:

Order	Data Procedure
1	Adjust DY centering adjustment ring so that margins at top, bottom, right and left are equal.

Note : The centering position is affected by earth magnetism. Rotate the camera 360 degrees and find the amount of centering change. Make the adjustment to the center of the change.

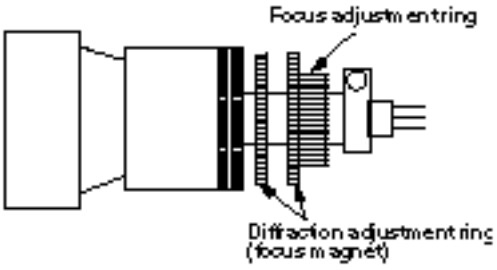


18-5. Focus adjustment

Signal	Monoscope signal
Adjustment	DY focus ring
Specification Value	Horizontal resolution is 300 lines or more.

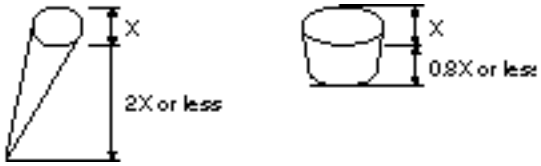
Adjustment procedure:

Order	Procedure
1	Adjust focus ring for optimum focus. Confirm that the horizontal resolution satisfies the specification.



18-6. Diffraction adjustment

Signal	Dot pattern, Monoscope signal
Adjustment	DY diffraction adjustment ring
Specification Value	Refer to the illustration below.



Adjustment procedure:

Order	Procedure
1	Adjust the diffraction adjustment ring so that tail of a dot must be smaller than 2 times of dot diameter, or the fanshaped diffraction must smaller than the dot diameter.
2	If the focus and centering are affected by this adjustment, input monoscope signal and repeat focus and centering adjustments.

Related Adjustments:
Focus adjustment
Centering adjustment

19. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS

[Adjustment connector]

The viewfinder adjustment points have gathered to CN702 of the VF-110 board. Connect the measuring equipment to CN702 via the jig (J-6082-192-A). The table below shows the pin numbers and the signal names of CN702.

Pin No.	Signal Name
1	LC COM
2	EVF GND
3	G OUT
4	13.5V
5	N.C.
6	12V
7	R OUT
8	B OUT
9	SLYT
10	PCO

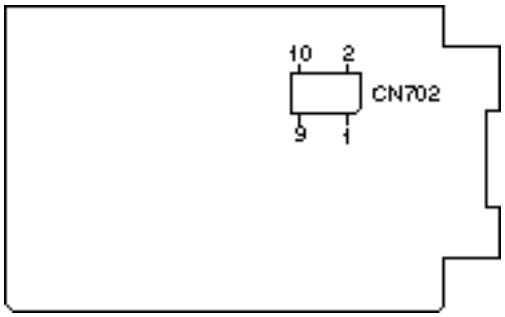
Preparation:

Because this machine does not have VIDEO INPUT connector, playback the alignment tape and use the playback signal for adjustment.

Alignment tape :

WR5-5CSP : PAL
(Parts code : 8-967-995-47)
WR5-5NSP : NTSC
(Parts code : 8-967-995-42)

VF-110 BOARD (SIDE A)



VF-109 BOARD (SIDE A)

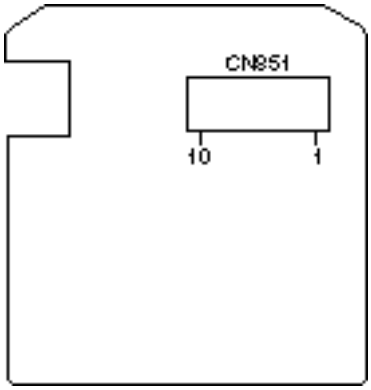


Fig. 6-1-13

19-1. Power supply voltage check (VF-109 board)

Mode	Camera record
Subject	Any subject
Measuring Equipment	Digital voltmeter
EVF 5V check	
Measuring Point	CN851 pin ⑤
Specification Value	4.65 ± 0.05Vdc
EVF15 V check	
Measuring Point	CN851 pin ⑦
Specification Value	15.0 ± 0.05Vdc

19-2. EVR initial data input

Mode	Stop
Signal	Any video signal
Adjustment page	F

Input procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data.
2	F	CC	A0	After setting the data, press the PAUSE button.
		CD	AE (75)	
		CE	95 (50)	
		CF	7A	
		D0	6A	
		D1	70	
		D2	90	
		D3	40	
		D4	7A	
		D5	7A	
		D6	70	
		D7	05	
3	6	00	00	Set the data.

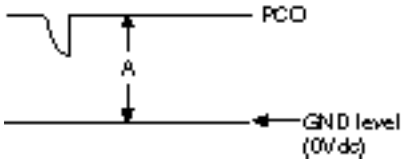
No mark : NTSC/PAL
( ) : PAL

19-3. PCO adjustment (VF-110 board)

Purpose : To make the TG frequency constant (amplitude).

Adjustment error : VF picture will lose sync when error is large.

Mode	VTR stop
Signal	No signal
Measurement Point	VF-110 board CN702 pin ⑩ (PCO)
Measuring Equipment	Oscilloscope (DC range)
Adjustment Page	F
Adjustment Address	D2
Specification Value	A=1.80 ± 0.05V



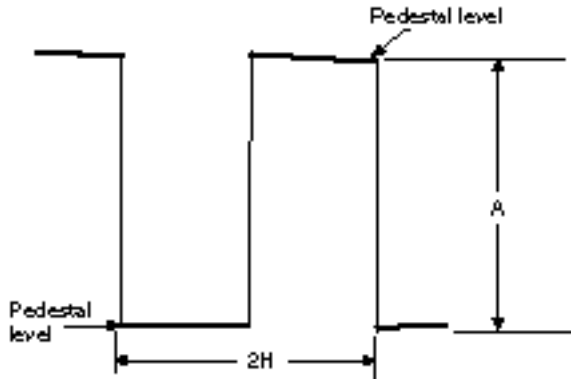
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2				Check the GND level on an oscilloscope in DC mode.
3	F	D2		Change the data until the PCO voltage (A) becomes the specification value.
4				Press the PAUSE button.
5	6	00	00	Set the data. (End)

19-4. BRIGHT adjustment (VF-110 board)

Purpose : Adjust brightness of EVF screen (appearance)
Adjustment error : The EVF picture will be close to saturated picture (white washing) or black compression.

Mode	Playback
Signal	Signal
Measurement Point	CN702 pin ③ (G OUT) on VF-110 board
Measuring Equipment	Oscilloscope
Adjustment Page	F
Adjustment Address	CC
Specification	A=7.0 ± 0.1Vp-p



Connection
1) Connect CN702 pin ③ and pin ② (EVF GND) using a 3300 resistor (1-249-423-11).

Adjustment Procedure:

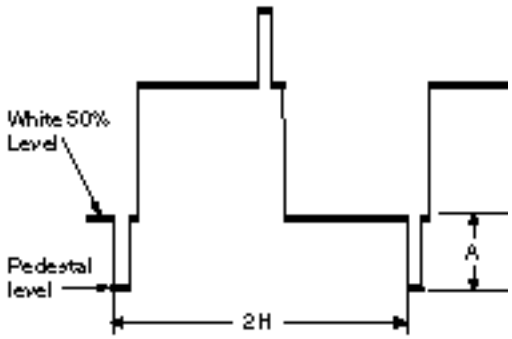
Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	CC		Change the data until the voltage difference (A) between the inverted waveform's pedestal and the non-inverted waveform's pedestal satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	Set the data. (End)

Related adjustment items
[White Balance Adjustment]

19-5. CONTRAST adjustment (VF-110 board)

Purpose : Adjust contrast of the EVF screen.
Adjustment error : The EVF picture becomes dull (white washing) or close to saturated image.

Mode	Playback
Signal	Signal
Measurement Point	CN702 pin ③ (G OUT) on VF-110 board
Measuring Equipment	Oscilloscope
Adjustment Page	F
Adjustment Address	D1
Specification	A=2.0 ± 0.1Vp-p (NTSC) A=2.0 ± 0.1Vp-p (PAL)



Connection
1) Connect CN702 pin ③ and pin ② (EVF GND) using a 3300 resistor (1-249-423-11).

Adjustment Procedure:

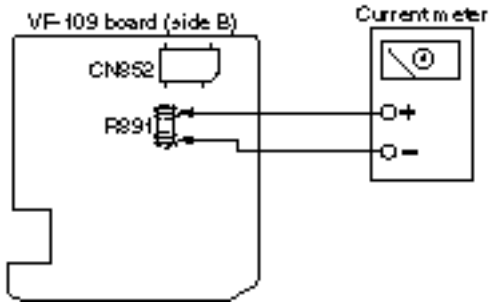
Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	4B		Change the data until the voltage difference (A) between the 50% all white signal and the pedestal satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	Set the data. (End)

19-6. Back light Current consumption adjustment (VF-109 board)

Purpose : Set brightness of the back light (fluorescent lamp) to a constant level.
Adjustment error : The EVF screen will become too dark or too bright.

Mode	Playback
Signal	No signal
Measurement Point	The pattern land from which R891 is removed
Measuring Equipment	Current meter
Adjustment Page	F
Adjustment Address	D3
Specification	45 ± 2mA

Note 1 : Perform this adjustment after 30 seconds of warm up after the power is turned ON.
Note 2 : Remove R891 before adjustment, and return R891 after adjustment.



Note : Connect ammeter to thee lands where R891 is removed.
Fig. 6-1-14

Adjustment Procedure:

Order	Page	Address	Data	Procedure
1				Remove R891 from the VF-109 board. Connect an ammeter to the pattern lands from which R891 is removed.
2	6	00	01	Set the data. (Preparation)
3	F	D3		Adjust the current value to the specification.
4				Press the PAUSE button.
5	6	00	00	Set the data. (End)
6				Reconnect R891.

19-7. White balance adjustment

Purpose : Calibrate the white balance.
Adjustment error : The color reproduction of the EVF screen becomes poor.

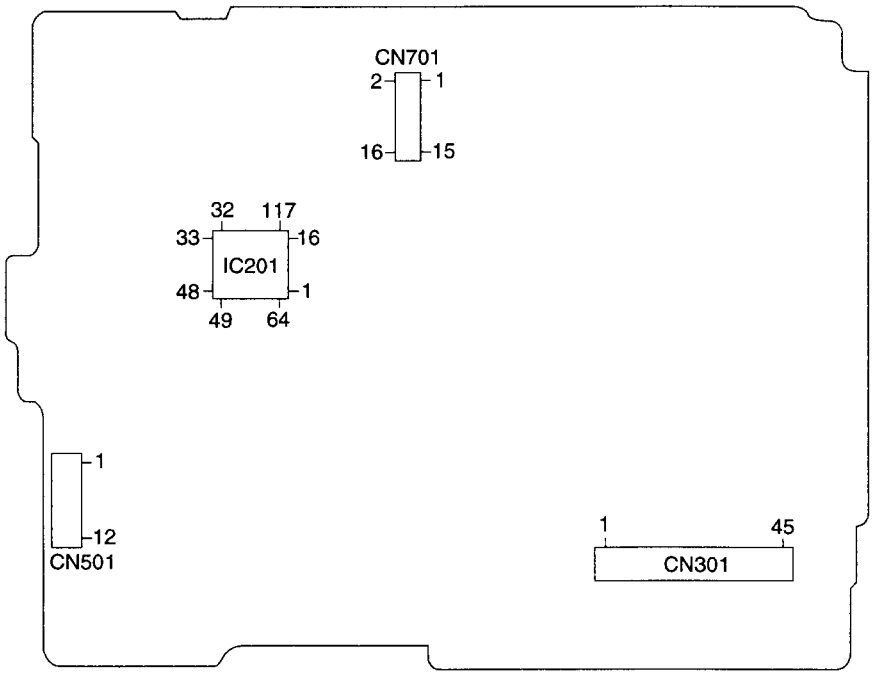
Mode	Playback
Signal	Any signal
Measurement Point	Check white balance on the EVF screen.
Measuring Equipment	
Adjustment Page	F
Adjustment Address	CF, D0
Specification	The EVF screen must not have any colors.

Adjustment Procedure:

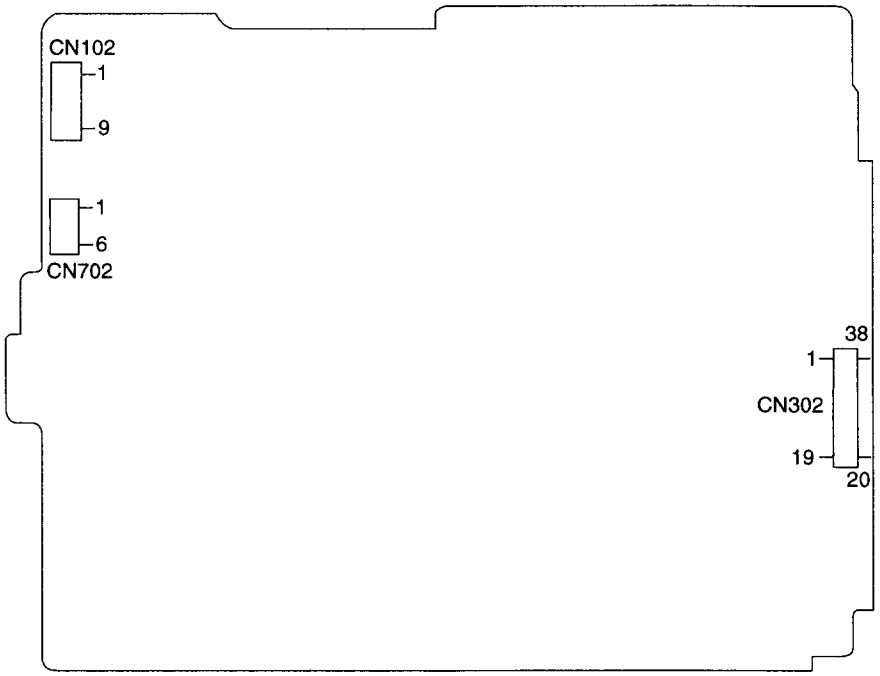
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	CF	7A	After setting the data, press the PAUSE button.
3	F	D0	6A	After setting the data, press the PAUSE button.
4				Confirm that the EVF screen has not color at all.
5	F	CF, D0		If the EVF screen has any colors, change the data until the EVF screen has any colors.
6				Press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

VC-188 BOARD (SIDE A)



VC-188 BOARD (SIDE B)



6-2. MECHANISM SECTION ADJUSTMENTS

Refer to the separate "8 mm Video Mechanism Section Adjustment Manual B Mechanism " for adjustment, check procedure and mechanical parts replacement.

2-1. HOW TO OPERATE THE MECHANISM AFTER THE CASSETTE COMPARTMENT IS REMOVED

1. How to load a cassette tape:

1) Refer to "1. Disassembly" and turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
2) Connect the adjustment remote commander and set the NORM -ADJUST (HOLD) switch to ADJUST (ON) position.
3) Check that the main power is being supplied.
4) Select page : 6, address: 00, set data : 01 and press the PAUSE button.
5) Select page : F, address: 02, set data : 01 and press the PAUSE button.
6) Turn off the power supply once, then turn it on.
7) Set the NORM-ADJUST (HOLD) switch to NORM (OFF) position. (The adjustment remote commander can be disconnected hereafter.)
8) Press the push-switch-1 knob in the direction of arrow which sets the machine into loading mode.
   PB, FF/REW and CUE/REV operations are possible.
9) After completing all steps of above operation, be sure to perform "4. Processing after operation".

2. How to establish RECORD mode:

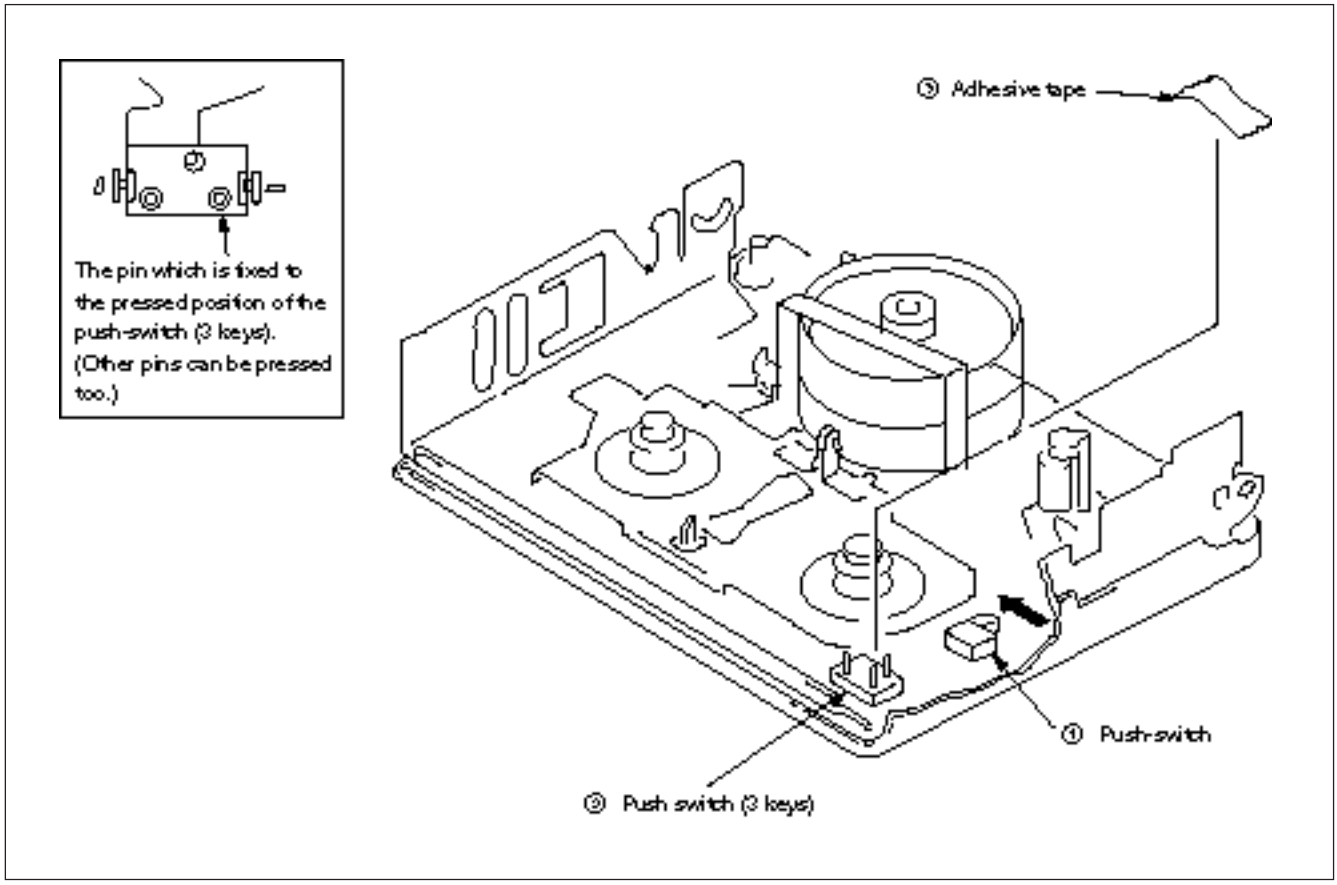
1) Press pin of the push-switch 2 (ON state) and keep the ON state by fixing with adhesive tape.
2) Turn the main power switch ON (select VTR or CAMERA position of camera).
3) Set the RECORD switch to ON.
   (When the test mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

1) Press the EJECT switch to ON.

4. Processing after operation

1) Connect the adjustment remote commander and set the NORM - ADJUST (HOLD) switch to ADJUST (ON) position.
2) Select page 6, address : 00, set data : 01 and press the PAUSE button.
3) Select page: F, address : 02, set data : 00 and press the PAUSE button.
4) Remove the power supply to the machine.


The pin which is fixed to the pressed position of the push-switch (3 keys). (Other pins can be pressed too.)
③ Adhesive tape
① Push-switch
② Push switch (3 keys)

2-2. TAPE PATH ADJUSTMENT

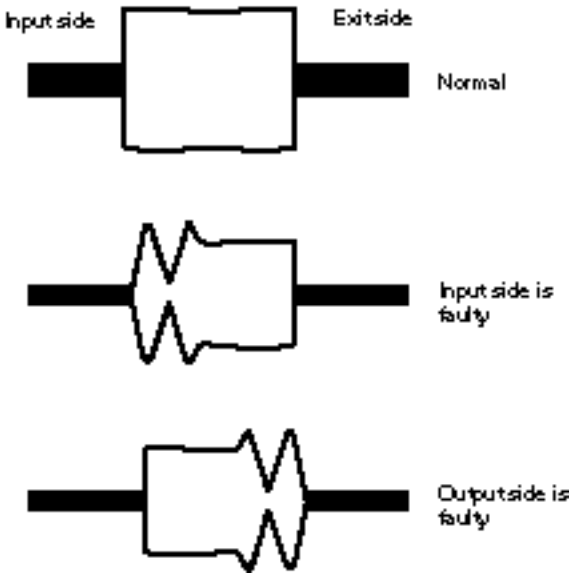
Purpose : Adjusts the head linearity.
Adjustment Error : Noise appears on top and bottom of display when playing back the tape recorded by other machines.

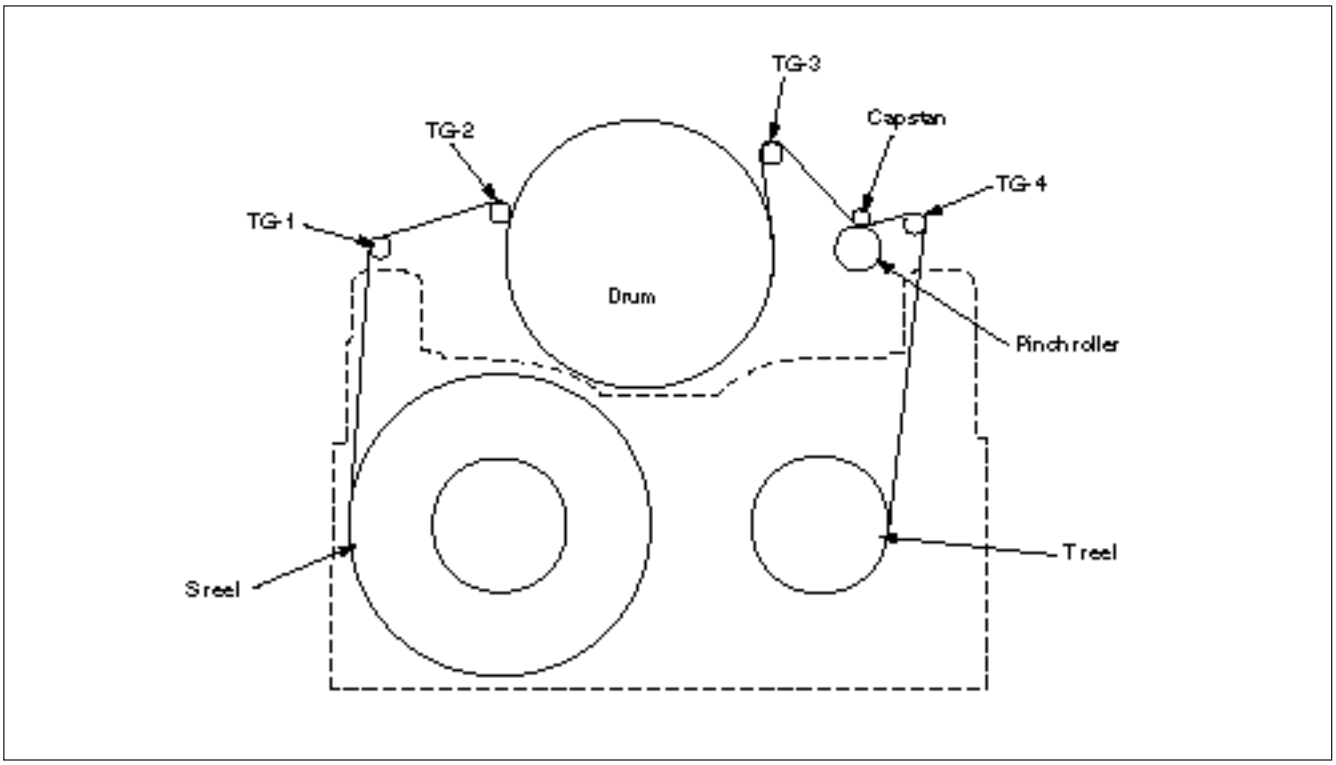
1. Preparations for adjustments

1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
3) Set the NORM-ADJUST (HOLD) switch to ADJUST (ON) position.
4) Check that the main power is being supplied.
5) Select page : 6, address : 00, set data : 01 and press the PAUSE button.
6) Select page : F, address : 02, set data : 03 and press the PAUSE button.
7) Turn off the power supply once, then turn it on.
8) Connect an oscilloscope.
   CH1: VC-188 board CN102 pin ①.
   External trigger : VC-188 board CN102 pin ⑧.
9) Playback the tracking alignment tape.
   WR5-1NP : NTSC
   WR5-1CP : PAL
10) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
    If it not flat. Tape Path Adjustment" of the 8mm Video Mechanism Section Adjustment Manual ■ B Mechanism .
11) After completing the adjustment, perform "2-1-4. Processing after operation".

VC-188 board CN102

1	PB RF
2	REC 2
3	GND
4	EMPH IN
5	CAM Y IN
6	DEEMPH OUT
7	BPF ADJ
8	RF SWP
9	CAP FG





6-3. VIDEO SECTION ADJUSTMENT

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6-74.

Perform the video section adjustment in the sequence as described.

[Adjustment sequence]

1) System control system adjustment
   1. Battery down voltage adjustment
   2. Battery down voltage check
2) Servo system adjustment
   1. SYNC level and BURST level adjustment.
   2. Switching position adjustment
   3. Capstan FG offset adjustment
3) Playback frequency response characteristics adjustment
4) DEMD OUT level adjustment
5) YD OUT LEVEL adjustment
6) PB Chroma level check
7) PB Y out level adjustment
8) FE OSC check
9) Emphasis input level adjustment
10) Y FM deviation adjustment
11) Y FM carrier frequency adjustment
12) Chroma emphasis fo adjustment
13) REC Y level adjustment
14) REC L level adjustment
15) REC C level adjustment

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following measuring equipment are used for video section adjustment.

3-1-1. Equipment required

1) Monitor TV
2) Oscilloscope, dual trace, 30MHz bandwidth or more with delay mode function.
   (Use 10 :1 probe unless otherwise specified.)
3) Frequency counter
4) Digital voltmeter
5) Audio generator
6) Audio level meter
7) Audio distortion meter
8) Audio attenuator
9) Regulated power supply
10) Alignment tape
    ⟨For PAL model⟩
    • For tracking adjustment (WR5-1CP)
      Parts code : 8-967-995-07
    • For normal mode video frequency response adjustment (WR5-6C)
      Parts code : 8-967-995-17
    • For confirmation of normal mode operation
      for SP (WR5-5CSP)
      Parts code : 8-967-995-47
      or (WR5-4CSP)
      Parts code : 8-967-995-46
      or (WR5-9CS)
      Parts code : 8-967-995-28
      for LP (WR5-4CL)
      Parts code : 8-967-995-56
    ⟨For NTSC model⟩
    • For tracking adjustment (WR5-1NP)
      Parts code : 8-967-995-02
    • For normal mode video frequency response adjustment (WR5-6N)
      Parts code : 8-967-995-12
    • For confirmation of normal mode operation
      for SP (WR5-5NSP)
      Parts code : 8-967-995-42
      or (WR5-4NSP)
      Parts code : 8-967-995-41
      or (WR5-9NS)
      Parts code : 8-967-995-23
      for LP (WR5-4NL)
      Parts code : 8-967-995-51

3-1-2. Precautions on adjustment

The EVF (electronic viewfinder) is not necessary for video section adjustment.
Remove the following connector to remove the EVF.

1. CF-44 board CN403 (8-pin) : B/W EVF model
   CF-44 board CN404 (16-pin) : COLOR EVF model

The audio board (MA-295) board is not necessary except for "Audio System Adjustments". Remove the following connectors.

1. VC-188 board CN501 (12-pin)

After completing all adjustments, release the adjustment mode by either of the following two methods.

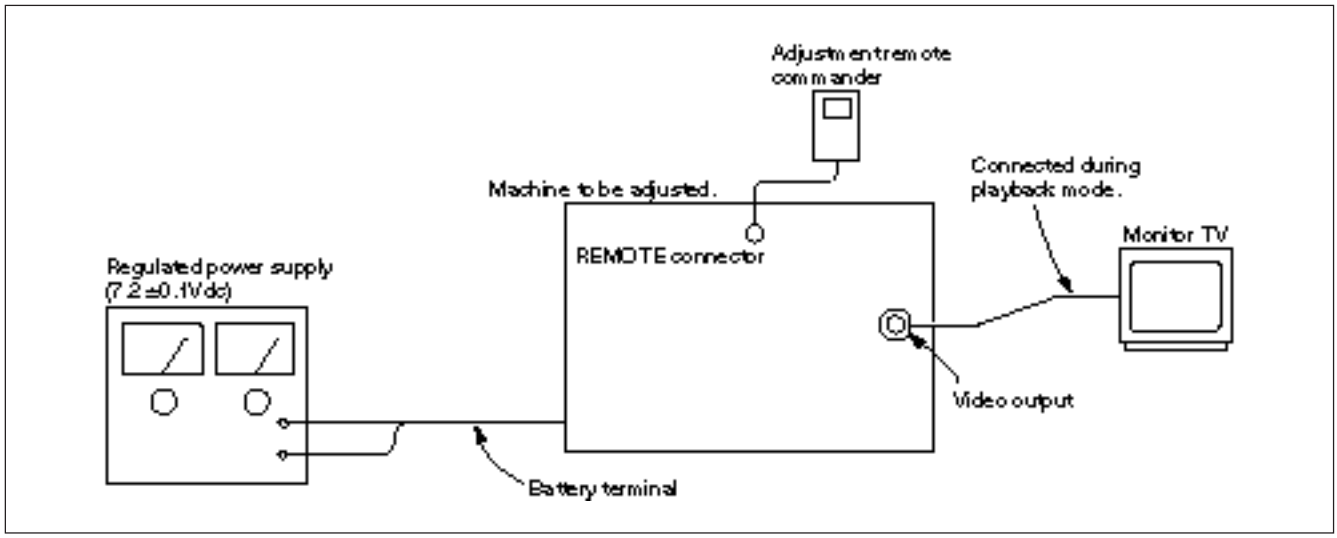
1) Remove the lithium battery. (In this case, data time and menu setting by users are erased. Input these data again.)
2) Return the data of the address : 00 on page : 6 to 00. If the page : 2 data is changed, return the data to the original value.

3-1-3. Adjustment connector (VC-188 Board CN102)

Some video section adjustment points are concentrated to the VC-188 board CN102. Connect the measuring equipment via the tool (Multi CPC: J-6082-311-A).

Pin No.	Signal Name
1	PB RF
2	REC 2
3	GND
4	EMPH IN
5	CAM Y IN
6	DEEMPH OUT
7	BPF ADJ
8	RF SWP
9	CAP FG

3-1-4. Equipment connection



3-1-5. Alignment tape

The following table shows the alignment tapes available.
Use the tape specified in the signal column for each adjustment.
If tape type is not specified in the adjustments which use the "Operation Check" tape, use any type of tape for the checking purpose.

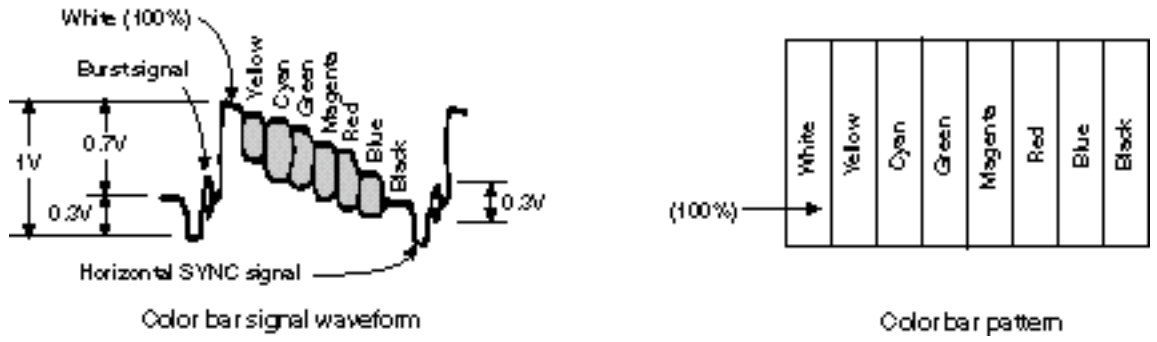
Name	Record Mode	Tape Type	Tape Speed	Use
Tracking WR5-1CP/1NP	Normal	MP	SP	Tape path adjustment Switching position adjustment
Video frequency response adjustment WR5-6C/6N	Normal	MP	SP	Frequency response adjustment
Operation check (SP mode) WR5-5CSP/5NSP	Normal	MP	SP	Operation check
Operation check WR5-4CL/4NL	Normal	MP	LP	
Operation check WR5-9CS/9NS	Normal	MP	SP	

Note : Tape type
MP — Metal particle tape

The color bar signal which is recorded in the alignment tape.

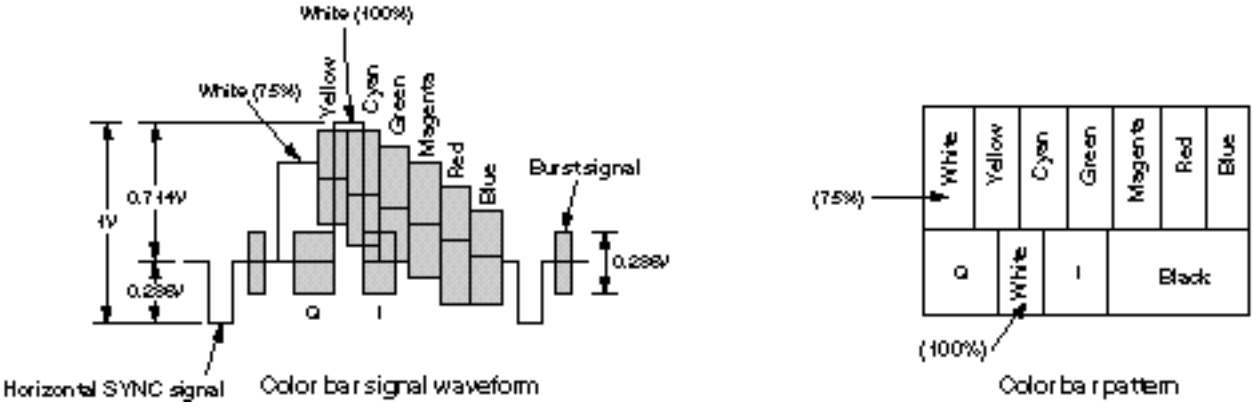
Note : Measured at video input/output connector (across 75 termination).

PAL MODEL



Color bar signal of PAL alignment tape

NTSC MODEL



Color bar signal of NTSC alignment tape

3-1-6. Output level and impedance

Video output — Pin jack
Output signal : 1Vp-p, 75Ω unbalanced, sync negative

Audio output — Pin jack
Input level : –7.5dBs (across 47kΩ load))
Output impedance : 2.2kΩ or less

3-2. ADJUSTMENT POINTS WHEN MAJOR PARTS ARE REPLACED

1. When drum is replaced:

"Tape Path Position Adjustment" of mechanical section adjustment
"PB RF frequency response characteristics adjustment" of the video section adjustment
"Switching position adjustment" of the servo section adjustment

3-3. POWER SUPPLY SYSTEM ADJUSTMENT

1. Power supply voltage check (VC-188 board)

Mode	Camera record
Subject	Any subject
Measuring Equipment	Digital voltmeter
MT5V check	
Measuring Point	CN301 pin ㉚
Specification Value	5.0 ± 0.15Vdc
DIG 3V check	
Measuring Point	CN301 pin ㉓
Specification Value	3.16 ± 0.1Vdc
AU 3 V check	
Measuring Point	CN501 pin ⑤
Specification Value	3.18 ± 0.1Vdc
EVF 5V check (camera mode)	
Measuring Point	CN301 pin ㉟㊱
Specification Value	4.85 ± 0.15Vdc
EVF15 V check	
Measuring Point	CN301 pin ㉞
Specification Value	14.95 ± 0.4Vdc

2. VTR & CAM mode ON

Mode	Stop
Signal	Any signal
Adjustment Page	F
Adjustment Address	02

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Set the remote commander (RM-95) to HOLD (adjustment position), and turn on the UNREG power supply.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	F	02	03	After setting the data, press the PAUSE button.
4				Turn off the UNREG power supply once, then turn it on.

How to cancel the VTR &CAM mode ON.

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button.
2	F	02	00	After setting the data, press the PAUSE button.
3				Turn off the UNREG power supply once, then turn it on.

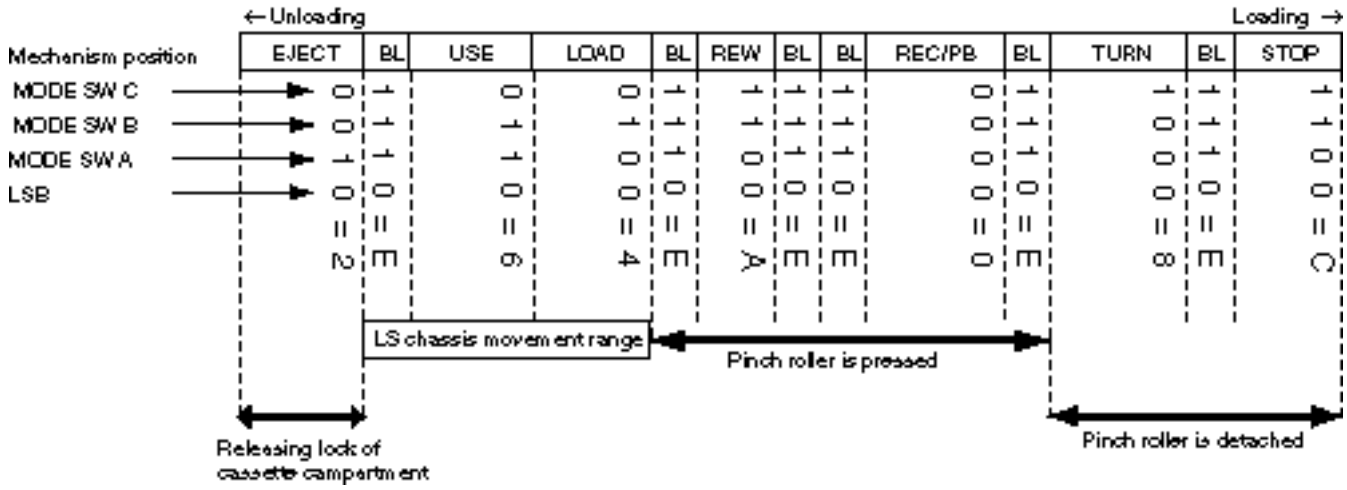
3. EMG code (Emergency code)

The emergency codes are stored in the addresses : E4, E8 and EC corresponding to the type of errors occurred. Types of error code are shown in the following table.

Code	Error Status
00	No error
10	Loading motor error during loading
11	Loading motor error during unloading
20	T reel error during unloading
21	S reel error during unloading
22	T reel error in normal mode
23	S reel error in normal mode
30	FG error during capstan startup
31	FG error during capstan normal speed
40	FG error during drum startup
41	FG error during drum startup
42	FG error during normal rotation of drum
43	Not used
44	Phase error during normal rotation of drum

4. MSW code

- The lower digit data of the page F : address : E6, EA and EE indicate the MSW code (mode switch code) when an error occurs.
- The upper digit data of the page F : address : E6, EA and EE indicate the MSW code (mode switch code) of mode transition (mode SW code before mode transition) when an error occurs.
- The lower digit data of the page F: address: E7, EB and EF indicate the MSW code (mode switch code) of transition target (code to which the machine is going to enter) when an error occurs.



Mechanism Position	MSW Code	Detail of Content
EJECT	2	The position where the cassette compartment lock is released. The end position in the unthread-end direction. The mechanism does not move any more in the direction of unloading direction.
BL	E	Blank code. The code which separates a code from another code. The machine does not stop at the code while is it operating.
USE	6	EJECT completed position. If a cassette is ejected, it stops at this position. If mechanism moves in the loading direction, the TG1 guide and the TG9 guide start moving.
LOAD	4	The code during loading and unloading. This code is output while the LS chassis is moving.
REW	A	REW position. The position to activate the REW and FR/REV.
RP	0	PB, REC, CUE REV and PAUSE position. The pinch roller is pressed and the tension regulator is turned ON.
TURN	8	The position which is used to move the swing gear from S to T or from T to S. Normal STOP position.
STOP	C	The pinch roller is detached, tension regulator is turned OFF, and both reels are braked. Mechanism does not move any more in the loading direction.

5. Bit value discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is “1” or “0”.

(Example) If the remote commander display is “8E”, bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

6. Initializing the emergency code area

(Caution) Perform the initializing operation only when the past emergency codes can be deleted.

Operating procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	11	00	After setting the data, press the PAUSE button.
3	6	01	4D	After setting the data, press the PAUSE button.
4	6	11	01	After setting the data, press the PAUSE button.
5	F	E4~EF	00	After setting the data, press the PAUSE button.
6	6	01	00	After setting the data, press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

7. LED check

Data	Operation
00	Normal
10	Tally LED lights.

Operating procedure:

Order	Page	Address	Date	Procedure
1				Turn CAM POWER ON.
2				Check LED.
3	2	00	00	After setting the data, press the PAUSE button.
4	2	A0	10	Tally LED light.

8. Key input check (CF-44 Board IC402 ㉗, ㉘ S415, S/S MODE SW)

Bit	Key Switch	Switch Condition
Bit0 : 0 Bit1 : 0		
Bit0 : 1 Bit1 : 0	5 SEC	“1”=OFF “0”=ON
Bit0 : 0 Bit1 : 1		

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	01	After setting the data, press the PAUSE button.
2	2	20		ON/OFF of each key switch can be known by discriminating the bit value of each display data.

9. Key input check

Bit	Key Switch	Switch Condition
0		
1		
2	Cassette eject	"1" =OFF
3	Video power supply (PLAYER) (VTR : E model)	"0"=ON
4	CC DOWN	
5	Start/Stop	
6	Camera power supply (CAM + STBY)	

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	3F	After setting the data, press the PAUSE button.
2	2	01		ON/OFF of each key switch can be known by discriminating the bit value of each display data.

10. Key input check (A/D port)

• CF-44 board

Address \ Display data	00 ~ 0B	0C ~ 27	28 ~ 49	4A ~ 76	77 ~ A9	AA ~ E3	E4 ~ FF
2F (KEY AD0 : IC402 ⑧②)	• STOP (VC-188 board S302)	• FF (VC-188 board S303)	• PB (VC-188 board S304)	• REW (VC-188 board S305)	• EDIT (+) (VC-188 board S306)	• EDIT (–) (VC-188 board S307)	
30 (KEY AD1 : IC402 ⑧③)	• TITLE (S412)	• PICTURE EFFECT (S413)	• MENU (S414)	• PAUSE (VC-188 board S301)	• IR (VC-188 board S308)		
31 (KEY AD2 : IC402 ⑧④)	• DATE (S411)	• BACK LIGHT (S410)	• FADER (S409)	• DISPLAY (S408)	• END SEARCH (S407)		
32 (KEY AD3 : IC402 ⑧⑤)	• TIME (S406)	• COUNTER RESET (S405)	•EXECUTE (S401)	• WIDE (S404)			
37 (PROGRAM AE : IC402 ⑨①)		SPORTS	HI-SPEED	TWILIGHT			AUTO
	(S416)						

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	01	After setting the data, press the PAUSE button.
2	2	37 2F to 33		From the display data of each address, it can be known which key is being pressed.

11. Individual operation of drum, capstan and loading motor

Data	Operation
00	Normal
02	Drum rotation in normal direction
06	Capstan rotation in normal direction
08	Capstan rotation in reverse direction
0A	Loading motor rotation in normal direction
0C	Loading motor rotation in reverse direction
01	All motors stop.
03	
05	
07	
09	
0B	
0D	
0F	

Note : Check the motors after removing the tape.

Operating procedure:

Order	Page	Address	Data	Procedure
1	2	00	02	After setting the data, press the PAUSE button.
2	7	0E	01	Individual operation of motors is approved.
3	7	11		Motor can be operated individually by setting the above described data.
4				Turn the main power (7.2V) OFF.

12. Drum use history check

Page 0	Address 02 to 04

Address	Function		Remarks
02	Accumulated drum rotation time (BCD code)	Hour	10th digit and 1st digit of the accumulated time (decimal numbers)
03		×100 Hour	1000th digit and 100th digit of the accumulated time (decimal numbers)
04		Minute	

How to use:

1) The record of use data is displayed at addresses : 02 to 04 on page 0.

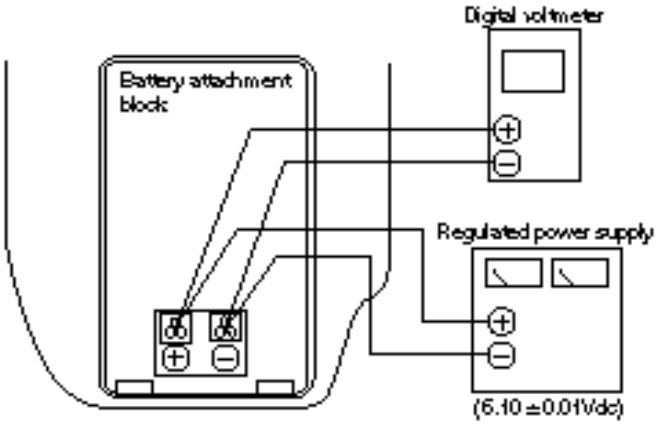
Note : This data will be cleared when the button battery is removed (reset). Be sure to read the data before disassembling the set.

3-4. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Battery down voltage adjustment

Purpose : Sets the end voltage of battery discharge.
Adjustment Error : Usable period of a battery will be shortened, or picture will be distorted at the battery end.

Mode	Camera record
Subject	Any subject
Measurement Point	LCD display of the adjustment
Measuring Instruments	remote commander
Adjustment Page	F
Adjustment Address	26, 27, 28, 29, 2A



Note : Set the AUTO FOCUS to OFF (MANUAL).

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 6.10 ± 0.01Vdc.
2				Insert a cassette and enter the camera recording mode. (CAM REC) After CAM REC is stabilized (after elapse of about 5 seconds or more), proceed to the next step.
3	6	00	01	After setting the data and press the PAUSE button of the adjusting remote commander.
4				Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.50 ± 0.01Vdc.
5	2	00	01	After setting the data and press the PAUSE button of the adjusting remote commander.
6	2	39		Read the data displayed on the adjustment remote commander. This data is named Dref.
7	F	2A		After setting the data Dref and press thePAUSE button of the adjusting remote commander.
8				Convert Dref into the decimal number. The result decimal number is Dref '. (Note 2)
9	F	 26 27 28 29		Calculate the following equation (decimal calculation) to obtain the following adjustment data (decimal number). Convert the adjustment data into hexadecimal numbers respectively, and set the hexadecimal data into the respective adjustment addresses. (Note 2) After setting the data, be sure to press the PAUSE button of the adjusting remote commander. Address : 0F D_{0F} ' = Dref '+ 16 Address : 0E D_{0E} ' = Dref '+ 13 Address : 0D D_{0D} ' = Dref '+ 10 Address : 0C D_{0C} ' = Dref '+ 5
10	2	00	00	After setting the data and press the PAUSE button of the adjusting remote commander.
11	6	00	00	After setting the data and press the PAUSE button of the adjusting remote commander.
12				Turn off the main power.

Note 2 : Refer to the “Hexadecimal-Conversion Table” on page 6-12 , or ⟨Conversion between the hexadecimal number to decimal number⟩ and ⟨How to convert the decimal number to hexadecimal number⟩ on page 6-13 of the Service Manual, conversion between decimal number s and hexadecimal numbers.

2. Battery down voltage check

Connection : Same connection as item “1. Battery down voltage adjustment”.

Order	Procedure
1	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 6.10 ± 0.01Vdc.
2	Insert a cassette and enter the camera recording mode. (CAM REC)
3	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.53 ± 0.01Vdc.
4	Confirm that the battery down indication ⏍ on the TALLY LED and EVF flashes at the rate of 0.8Hz.
5	Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates 5.25 ± 0.01Vdc.
6	Confirm that the battery down indication ⏍ on the TALLY LED and EVF flashes at the rate of 3.2Hz.
7	Press the START/STOP key. (CAM STBY)

3-5. SERVO SYSTEM ADJUSTMENTS

1. SYNC level and BURST level adjustments

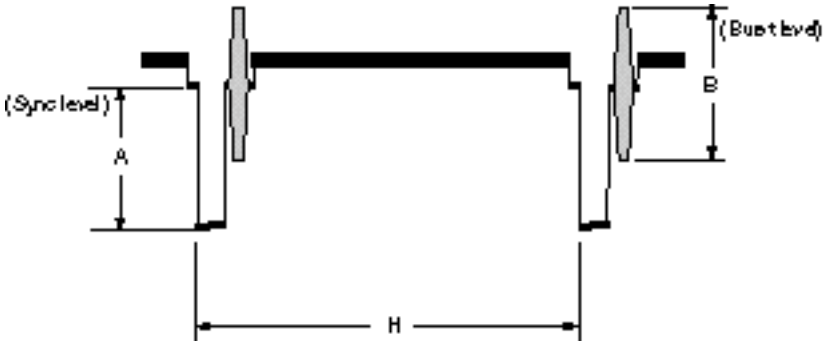
Purpose : Adjust the sync and burst level of the camera output to the specified values.

Adjustment error : The playback machine can lose lock of the servo systems if the sync level is too low. The playback color will become too thick if the burst level is low.

Mode	Camera record
Subject	Color bar chart: standard picture frame
Measurement point	VIDEO output terminal (terminated in 75Ω)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	3E (SYNC LEVEL) 3F (BURST LEVEL)
Specifications	SYNC LEVEL : A=300 ± 10mV (PAL) A=286 ± 10mV (NTSC) BURST LEVEL : B=300 ± 6mV (PAL) B=286 ± 6mV (NTSC)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01	03	After setting the data, press the PAUSE button.
3	F	3E		Change the data using the PLAY and STOP buttons until the SYNC LEVEL (A) satisfies the specification.
4				Press the PAUSE button.
5	F	3F		Change the data using the PLAY and STOP buttons until the BURST LEVEL (B) satisfies the specification.
6				Press the PAUSE button.
7	6	01	00	After setting the data, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)



2. Switching position adjustment

Purpose : Removes vertical mechanical error of head assembling.

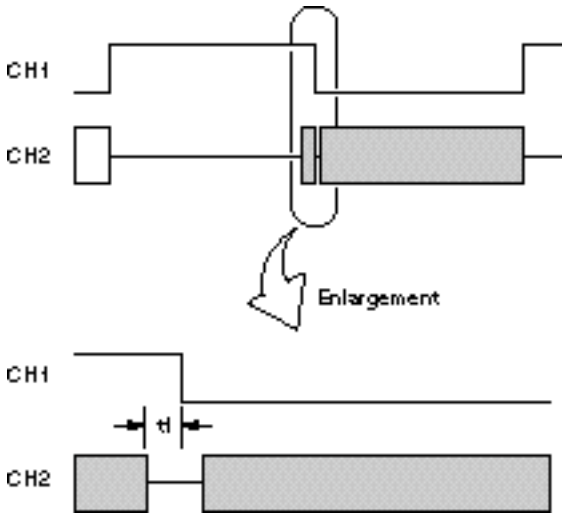
Adjustment error : Skew picture.

Mode	Playback (SP/LP)
Signal	Alignment tape : For adjustment tracking WR5-1CP (PAL) WR5-1NP (NTSC)
Measurement Point	CH1 : ⑧ of CN102 (RF SWP) CH2 : ① of CN102 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	22, 23 *(24, 25)
Specification Value	t1= 0 ± 10μsec

* : NTSC MODEL only

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	23	80	Initial setting.
3	F	23		Change the data with the PLAY and STOP buttons, and minimize t1.
4				Press the PAUSE button.
5	F	22		Change the data with the PLAY and STOP buttons, and minimize t1.
6				Press the PAUSE button.
7				Check that t1 satisfies the specified value. If not, repeat steps 3 to 6 in order.
*8	F	01		Raed the data of page : F, address : 01, and record it.
*9	F	01	10	After setting the data, Press the PAUSE button. (Forced LP head selection)
*10	F	25	80	Initial setting.
*11	F	25		Change the data with the PLAY and STOP buttons, and minimize t1.
*12				Press the PAUSE button.
*13	F	24		Change the data with the PLAY and STOP buttons, and minimize t1.
*14				Press the PAUSE button.
*15				Check that t1 satisfies the specified value. If not, repeat steps 10 to 13 in order.
*16	F	01		Set the data which is recorded in step 8 to this address and press the PAUSE button.
17	6	00	00	After setting the data, press the PAUSE button. (End)



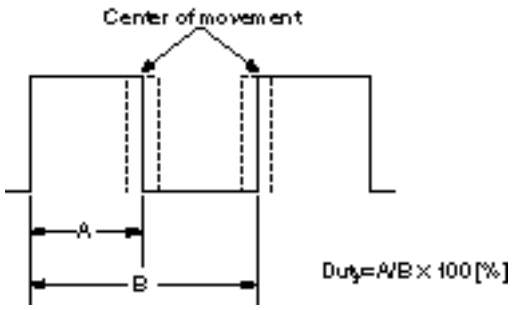
3. Capstan FG offset adjustment

Purpose : Adjusts duty ratio of capstan FG signal
Adjustment error : Jitter can increase.

Mode	CAM-REC (SP)
Signal	Any signal
Measurement Point	CN102 pin ⑨
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	2B
Specification Value	Duty = 50 ± 1.5%

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	2B	80	After setting the data, press the PAUSE button.
3	F	2B		Change data using PLAY and STOP buttons so that the duty ratio A/B satisfies the specification.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)



3-6. PLAYBACK FREQUENCY RESPONSE CHARACTERISTICS ADJUSTMENT

Purpose : Remove variation of picture quality between heads due to difference of characteristics.

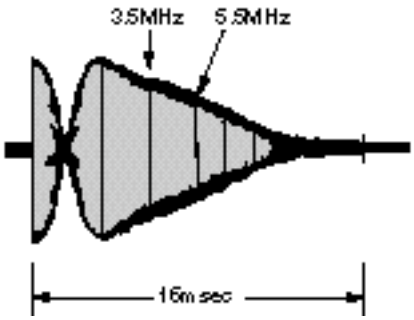
Adjustment error : Flicker or over-modulation of playback picture.

Mode	Playback (SP/LP)
Signal	Alignment tape : Normal mode frequency response characteristics adjustment WR5-6C (PAL) WR5-6N (NTSC)
Measurement Point	Check connector (CH1 : CN102 pin ① (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	38, 39 (PAL/NTSC) 3A, 3B (NTSC only)
Specification Value	3.5MHz level : 5.5MHz level = 4 : (3.0 ± 0.2)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	38		Change data using PLAY and STOP buttons to adjust the level ration between 3.5MHz level and 5.5MHz level of the PB RF waveform of channel “1a” satisfies the specification. Press the PAUSE button. Playback mode.
3	F	39		Adjust the channel “2a” in the same way (address 39). Press the PAUSE button. Playback mode.
4	F	01		Read the data of page : F, address : 01, and record it.
5	F	01	10	After setting the data, press the PAUSE button. (Forced LP head selection)
6	F	3A		Change data using PLAY and STOP buttons to adjust the level ration between 3.5MHz level and 5.5MHz level of the PB RF waveform of channel “1a” satisfies the specification. Press the PAUSE button. Playback mode.
7	F	3B		Adjust the channel “2a” in the same way (address 3B). Press the PAUSE button. Playback mode.
8	F	01		Set the data which is recorded in step 4 to this address and press the PAUSE button.
9	6	00	00	After setting the data, press the PAUSE button. (End)

Note : Perform the adjustment steps from 4 to 8 in the NTSC model only.



3-7. DEMD OUT LEVEL ADJUSTMENT

Purpose : The playback video level is kept to constant level.

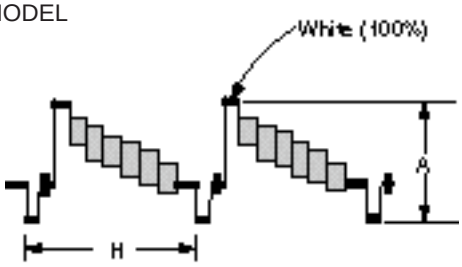
Adjustment error : The playback picture can be brighter or darker than normal picture.

Mode	Playback
Signal	Alignment tape : Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	IC201 pin ⑳ or CN102 pin ⑥
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	33
Specification Value	A=0.50 ± 0.01Vp-p

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	33		Change data using PLAY and STOP buttons so that the Y signal level (A) satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL

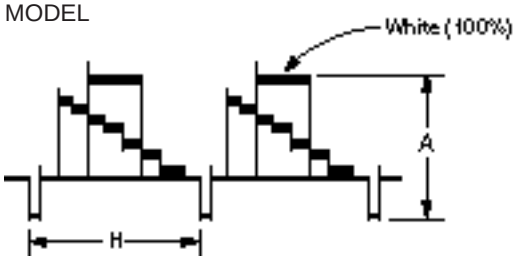


Fig. 6-3-1

3-7. YD OUT LEVEL ADJUSTMENT

Purpose : Minimizes the residual chroma component of Y comb filter output signal.

Adjustment error : Chroma flicker at video out (pin jack) of VTR overall characteristics. Color variations also significant.

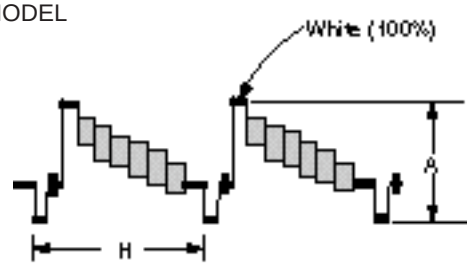
Mode	Playback
Signal	Alignment tape : Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	IC201 pin ㉔ or CN102 pin ⑤
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	3C
Specification Value	A=0.50 ± 0.01Vp-p

Note : Minimize the residual chroma to the smallest amplitude

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	3C		Change data using PLAY and STOP buttons so that the Y signal level (A) satisfies the specification.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL

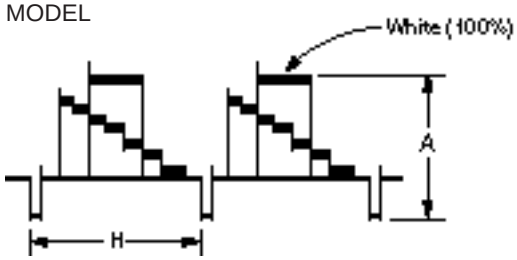


Fig. 6-3-2

Related Adjustments:
"Emphasis input level adjustment", "PB Y level adjustment", "Y FM carrier frequency adjustment"

3-8. PB CHROMA LEVEL CHECK

Purpose : The playback chroma level is kept to constant level.

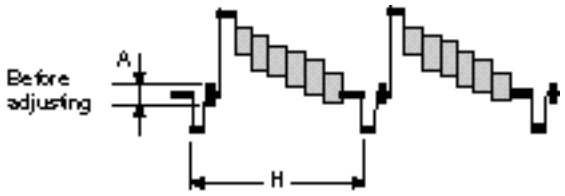
Adjustment error : Color of playback picture can be thinner or thicker than normal picture.

Mode	Playback
Signal	Alignment tape : color bar segment of operation check tape • Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	CN102 pin ⑥
Measuring Instrument	Oscilloscope
Adjustment Page	—
Adjustment Address	—
Specification Value	A=150 ± 15mVp-p (BURST LEVEL)

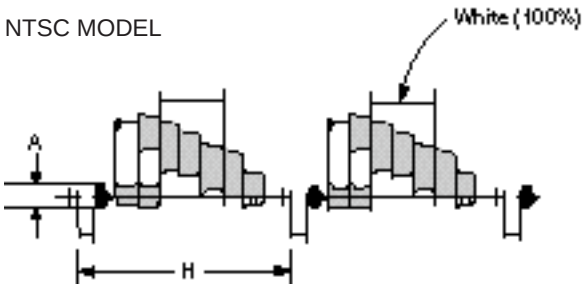
Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Playback the color bar segment of the normal mode alignment tape.
2				Check that the burst signal level satisfies the specification.

PAL MODEL



NTSC MODEL



3-9. PB Y OUT LEVEL ADJUSTMENT

Purpose : Adjusts playback video level for the specification value.

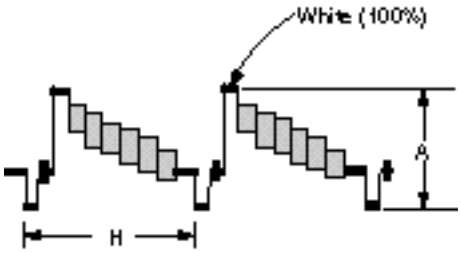
Adjustment error : Playback picture can be too brighter or too darker than normal picture.

Mode	Playback
Signal	Alignment tape : color bar segment of operation check tape • Normal mode WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	32
Specification Value	A=1.00 ± 0.05Vp-p

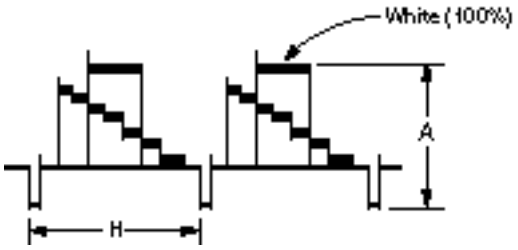
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Playback the color bar segment of the normal alignment tape.
3	F	32		Change data using PLAY and STOP buttons so that the playback signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL



3-10. FE OSC CHECK

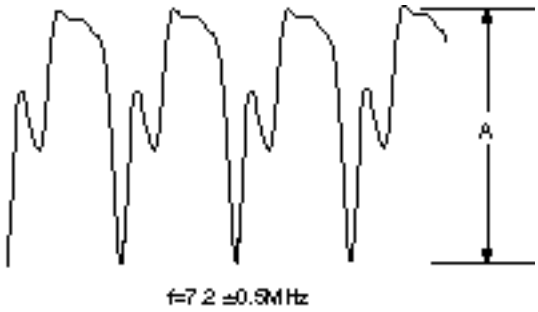
Purpose : Check the oscillating frequency and level of the flying erase (FE) signal.

Adjustment error : If REC-PAUSE recording is repeated, un-erased area is left in the junctions between the editings which results in increase of noise or previous picture can be seen.

Mode	CAM-REC
Signal	Any signal
Measurement Point	CN101 pin ⑯
Measuring Instrument	Oscilloscope and frequency counter
Adjustment Page	—
Adjustment Address	—
Specification Value	A=7.0Vp-p or more (MP mode) A=6.0 ± 1.0Vp-p (ME mode) f=7.2 ± 0.5MHz (MP/ME mode)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Insert a normal MP type tape.
2				Make a recording.
3				Check that the FE signal level satisfies the specification.
4				Check that the FE signal frequency satisfies the specification.
5				Insert a normal ME type tape.
6				Make a recording.
7				Check that the FE signal level satisfies the specification.
8				Check that the FE signal frequency satisfies the specification.



3-11. EMPHASIS INPUT LEVEL ADJUSTMENT

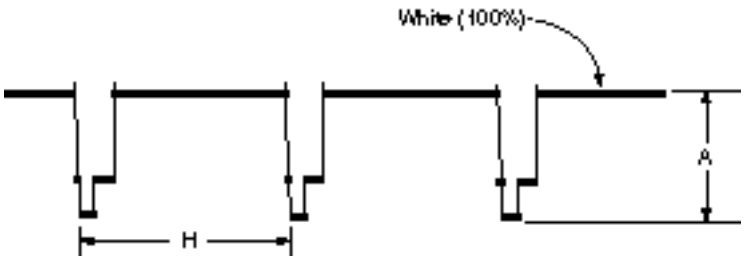
Purpose : Adjusts the record emphasis characteristics to the specification value.

Adjustment error : Luminance signal smear, blurred picture, too much emphasized edge of overall video characteristics.

Mode	CAM-REC
Signal	Color bar chart
Measurement Point	• CN102 Pin ④ • VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	31
Specification Value	A=(Vo × 0.96 × 500) mVp-p ± 2%

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data of page : 6, address : 01, and record it.
3	6	01	47	After setting the data, press the PAUSE button.
4				Measure amplitude of the VIDEO OUT. The measured value is "Vo"[V].
5	F	31		Change data using PLAY and STOP buttons so that the Y signal level at CN102 pin④ (A) satisfies the specification.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)



3-12. Y FM DEVIATION ADJUSTMENT (NOTE)

Purpose : Adjusts the FM signal to be recorded on tape to the 8mm format. (Adjusts the frequency deviation of normal mode Y FM signal.)

Adjustment error : Too bright or too dark overall picture. Overmodulation picture. (If deviation is too wide, or too narrow.)

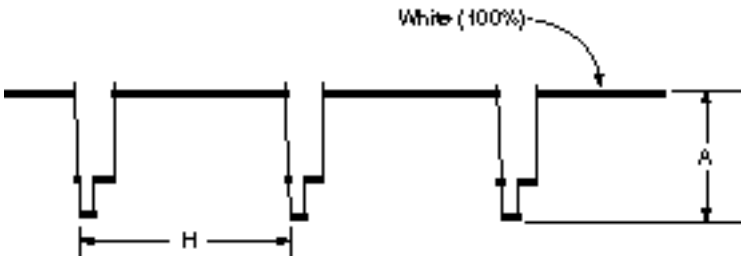
Mode	CAM-REC and playback
Signal	Color bar chart
Measurement Point	• VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	2F
Specification Value	A=(Vo × 0.96)Vp-p ± 2%

Note : The "Emphasis input level adjustment", "PB Y level adjustment", must have already been completed.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Insert a normal MP type tape.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	6	01		Read the data of page : 6, address : 01, and record it.
4	6	01	47	After setting the data, press the PAUSE button.
5				Shoot and record the color bar chart. The video out level at that setup is "Vo".
6				Playback the recorded signal.
7				Compare the playback signal level (A) with the specification value. If the specification value is satisfied, the adjustment is complete.
8	F	2F		If the specification value is satisfied, change data using PLAY and STOP buttons. • If the playback signal level is bigger than the specification value, decrease the data. • If the playback signal level is smaller than the specification value, increase the data.
9				Press the PAUSE button.
10				Return to step 4.
11	6	01		Set the data which is recorded is step 3 to this address and, press the PAUSE button.
12	6	00	00	After setting the data, press the PAUSE button. (End)

Related Adjustments:
"Normal mode Y FM deviation adjustment"



3-13. Y FM CARRIER FREQUENCY ADJUSTMENT

Purpose : Adjusts the FM signal to be recorded on tape to the 8 mm format. (Adjusts the carrier frequency of normal mode Y FM signal.)

Adjustment error : (If frequency is low) Overall picture will be blurred signal. (If frequency is high) Overall picture will have black streaking noise. S/N will be deteriorated.

Mode	CAM-REC
Signal	Any signal
Measurement Point	IC201 pin ㊶
Measuring Instrument	Frequency counter, Oscilloscope
Adjustment Page	F
Adjustment Address	30
Specification Value	4.20 ± 0.01MHz

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01	43	After setting the data, press the PAUSE button.
3	F	30		Change data using PLAY and STOP buttons so that the carrier frequency satisfies the specification. (Record mode)
4				Press the PAUSE button.
5	6	01	00	After setting the data, press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)

3-14. CHROMA EMPHASIS fo ADJUSTMENT

Purpose : Adjust fo of the chroma emphasis to the specified frequency range.

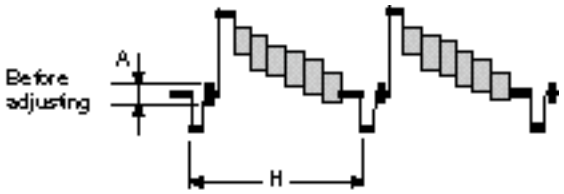
Adjustment error : The bust and chroma level becomes too big during playback.

Mode	Playback
Signal	Color bar signal WR5-5CSP (PAL) WR5-5NSP (NTSC)
Measurement Point	• VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	34
Specification Value	Minimizes the chroma component (A in the following diagram)

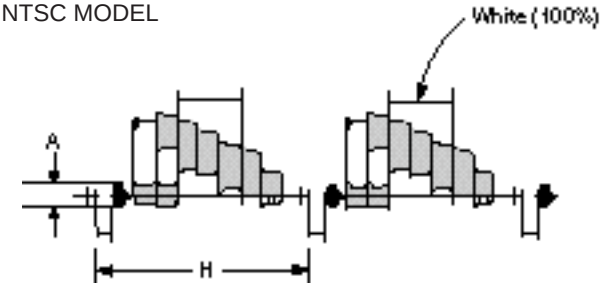
Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	34		Change data so that the chroma component (A) is minimized.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

PAL MODEL



NTSC MODEL



3-15. REC Y LEVEL ADJUSTMENT

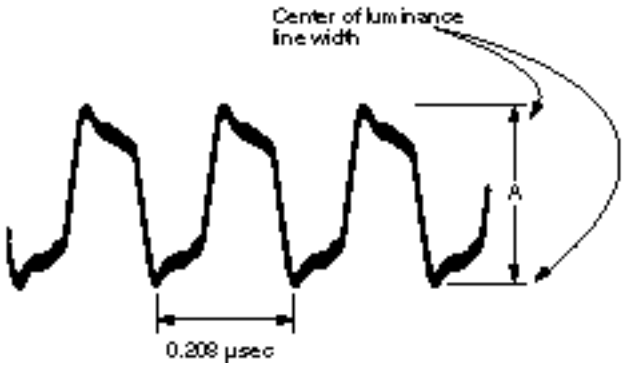
Purpose : Maintains a constant level of Y FM, chroma AFM and ATF signals when recording on tape.

Adjustment error : (If level is low) Poor S/N of playback picture
(If level is high) Black streaking noise appears.

Connection : Connect CN102 pin ⑧ (RF SWP) to GND.

Mode	CAM-REC (SP)
Signal	No signal
Measurement Point	CN102 pin ② (check connector)
Measuring Instrument	Oscilloscope (Note)
Adjustment Page	F
Adjustment Address	35
Specification Value	A=132 ± 5mVp-p (PAL) A=155 ± 5mVp-p (NTSC)

Note : Use the MP type tape. If an oscilloscope has the bandwidth limiting switch, set to on position.



Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Insert the MP tape to establish record mode.
3	6	01		Read the data of page : 6, address : 01, and record it.
4	6	01	43	After setting the data, press the PAUSE button.
5	F	35		Change data using PLAY and STOP buttons so that the REC Y RF level (A) satisfies the specification.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 3 to this address and, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)

3-16. REC C LEVEL ADJUSTMENT

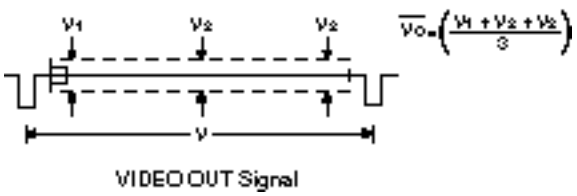
Purpose : Maintains a constant chroma level when recording on tape.

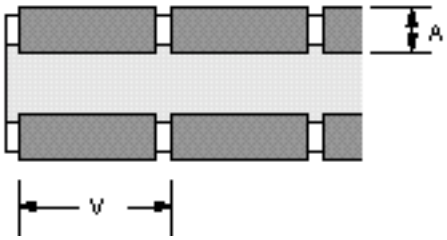
Adjustment error : If level is low, overall S/N deteriorates.
If level is high, S/N of Y signal at deep color deteriorates and white streaking noise appears.

Mode	CAM-REC
Signal	White pattern (See page 6-2)
Measurement Point	• CN102 pin ② (Check connector) • VIDEO output terminal (terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	37
Specification Value	$A=\left(23.5\times\frac{\overline{Vo}}{700}\right)$mVp-p ± 2mVp-p (PAL) $A=\left(32.4\times\frac{\overline{Vo}}{714}\right)$mVp-p ± 2mVp-p (NTSC)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Shoot the all white pattern to the full picture frame.
2	6	00	01	After setting the data, press the PAUSE button. (Preparation)
3	6	01		Read the data pf page : 6, address : 01, and record it.
4	6	01	45	After setting the data, press the PAUSE button.
5				Measure the chroma output level of the VIDEO OUT connector. Obtain the average value of three points (beginning, middle, end) of a vertical period. Call the average value $\overline{Vo}$ (mV).
6	F	37		Change data using PLAY and STOP buttons so that the REC signal at CN102 pin ② amplitude (A) satisfies the specification.
7				Press the PAUSE button.
8	6	01		Set the data which is recorded in step 3 to this address and, press the PAUSE button.
9	6	00	00	After setting the data, press the PAUSE button. (End)



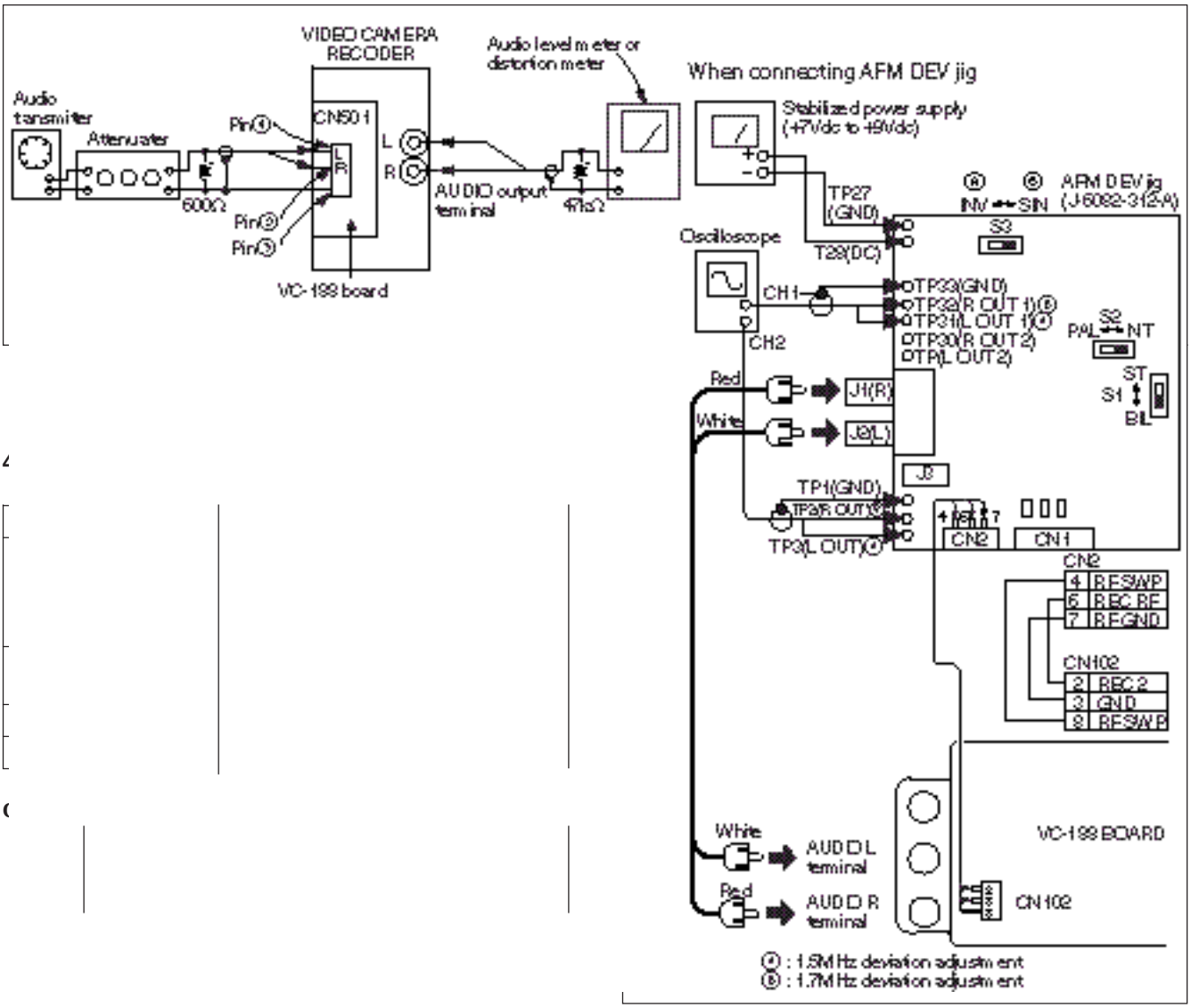


6-4. AUDIO SYSTEM ADJUSTMENT

- The right channel (STEREO) adjustment is performed in STEREO MODEL only.
- Use the alignment tape for audio system adjustment.
- Connect an audio input signal from VC-188 board CN501 as shown in Fig.6-4-1.

Alignment tape

〈MONO model〉 WR5-5CSP : PAL
WR5-5NSP : NTSC
〈STEREO model〉 WR5-9CS : PAL
WR5-9NS : NTSC



4-2. 1.5 MHz DEVIATION ADJUSTMENT (STEREO MODEL)

Purpose : Determines spectrum of the modulated L-ch (L+R/2 signal) signal during recording.

Adjustment error : Audio signal crosstalk deteriorates and audio level decreases in both record and playback modes.

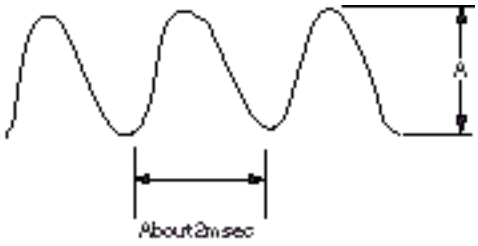
Mode	Record
Signal	AFM DEV adjustment tool output signal to left and right channels of audio input connector
Measurement Point	CH1 : TP31 of the AFM DEV adjustment tool CH2 : TP3 of the AFM DEV adjustment tool
Measuring Instrument	Oscilloscope ADD mode CH2 INV mode
Adjustment Page	F
Adjustment Address	2C
Specification Value	Difference (A) between CH1 and CH2 signals is 40mV or less.

Connection

1) Connect CH2 of the AFM DEV adjustment tool and CN102 of VC-188 board.
2) Connect the audio output terminals (J1, J2) of the AFM DEV adjustment tool and Video/Audio input/output connector of the machine to be adjusted.
3) Connect DC power supply (+7 to +9V dc) to TP28 (DC), and TP27 (GND) of the AFM DEV adjustment tool.
4) Set the switches of the AFM DEV adjustment tool to the following positions.
   S1 BIL position
   S2 NT position
   S3 SIN position

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Select the same vertical sensitivity of CH1 and CH2 of oscilloscope.
2				Set the oscilloscope to ADD mode and set CH2 to INV mode.
3	6	00	01	After setting the data, press the PAUSE button. (Preparation)
4	F	2C		Change data using PLAY and STOP buttons so that the audio level difference (A) is minimized.
5				Press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)



4-3. 1.7MHz DEVIATION ADJUSTMENT (STEREO MODEL)

Purpose : Determines spectrum of the modulated R-ch (L-R/2 signal) signal during recording.

Adjustment error : Audio signal crosstalk deteriorates and audio level decreases in both record and playback modes.

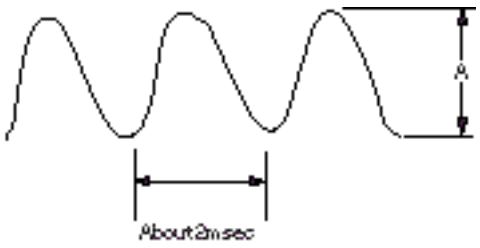
Mode	Record
Signal	AFM DEV adjustment tool output signal to left and right channels of audio input connector
Measurement Point	CH1: TP32 of the AFM DEV adjustment tool CH2: TP2 of the AFM DEV adjustment tool
Measuring Instrument	Oscilloscope ADD mode CH2 INV mode
Adjustment Page	F
Adjustment Address	2D
Specification Value	Difference (A) between CH1 and CH2 signals is 40mV or less.

Connection

1) Connect CH2 of the AFM DEV adjustment tool and CN102 of VC-188 board.
2) Connect the audio output terminals (J1, J2) of the AFM DEV adjustment tool and Video/Audio input/output connector of the machine to be adjusted.
3) Connect DC power supply (+7 to +9Vdc) to TP28 (DC), and TP27 (GND) of the AFM DEV adjustment tool.
4) Set the switches of the AFM DEV adjustment tool to the following positions.
   S1 BIL position
   S2 NT position
   S3 INV position

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Select the same vertical sensitivity of CH1 and CH2 of oscilloscope.
2				Set the oscilloscope to ADD mode and set CH2 to INV mode.
3	6	00	01	After setting the data, press the PAUSE button. (Preparation)
4	F	2D		Change data using PLAY and STOP buttons so that the audio level difference (A) is minimized.
5				Press the PAUSE button.
6	6	00	00	After setting the data, press the PAUSE button. (End)



4-4. 1.5MHz DEVIATION ADJUSTMENT (MONO MODEL)

Purpose : 1.5MHz deviation adjustment. Error in this adjustment value means loss of tape inter change ability.

Mode	Playback
Signal	Alignment tape : For checking operations WR5-5CSP : PAL WR5-5NSP : NTSC
Measurement	AUDIO output terminal.
Measuring Instrument	Oscilloscope, level meter
Adjustment Page	F
Adjustment Address	2C
Specified Value	–7.5 ± 0.5dBs

Adjustment method:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	F	2C		Change the data with the PLAY and STOP buttons, and adjust the 400Hz signal level to specified value.
3				Press the PAUSE button.
4	6	00	00	After setting the data, press the PAUSE button. (End)

4-5. BPF fo ADJUSTMENT

Purpose : Optimizes fo of BPF inside IC.
Adjustment error : Incorrect discrimination of monaural/stereo and increase of noise at high output of audio volume are resulted.

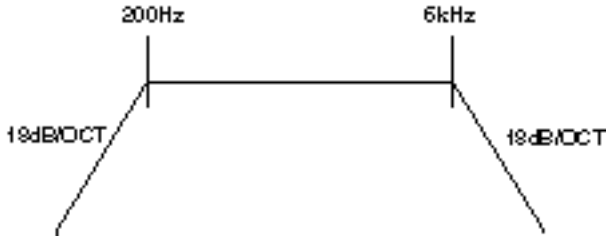
Mode	Playback
Signal	Alignment tape ⟨MONO model⟩ WR5-5CSP : PAL WR5-5NSP : NTSC ⟨STEREO model⟩ WR5-9CS : PAL WR5-9NS : NTSC
Measurement Point	AUDIO output terminal (Left/Right)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	2E
Specification Value	Distortion : 1% or less.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Playback the 400Hz segment of the alignment tape.
3	F	2E		Change data using PLAY and STOP buttons so that distortion factor is minimized.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

4-6. OVERALL SIGNAL LEVEL, DISTORTION AND SEPARATION CHECK

Mode	CAM-REC and playback
Signal	① CN501 pin ④ :400Hz, –38dBs CN501 pin ② : No signal *② CN501 pin ④ :No signal CN501 pin ② :400Hz, –38dBs
Measurement Point	AUDIO output terminal (Left) *AUDIO output terminal (Right)
Measurement Instrument	Audio level meter and distortion meter
Specification Value	Signal level (Note) ① Left output : –7.5 ± 2dBs Right output : –27.5dBs or less *② Left output : –27.5dBs or less Right output : –7.5 ± 2dBs Distortion Left/Right output : 0.8% or less



Note 1 : The value when band-pass filter of 200Hz to 6kHz is used.
Note 2 : Asterisk marks (*) are used in STEREO model.

Order	Procedure
1	Input 400Hz, –38dBs signal to CN501 pin ④. Short pin ② and ③ of CN501.
2	Check that the right and left channels of AUDIO output terminal satisfy the specification ①. Check that distortion satisfies the specification.
*3	Input 400Hz, –38dBs signal to CN501 pin ②. Short pin ③ and ④ of CN501.
*4	Check that the right and left channels of AUDIO output terminal satisfy the specification ②. Check that distortion satisfies the specification.

4-7. OVERALL NOISE LEVEL CHECK

Purpose : Checks noise level.

Mode	CAM-REC and playback
Signal	No signal : VC-188 board CN501 (Note)
Measurement Point	AUDIO output terminal (Left/Right)
Measuring Instrument	Audio level meter (using IHF-A curve weighting filter)
Specification Value	–65dBs or less

Note : Before making short circuit between CN501 pin ③ and pin ④, pin ③ and pin ② (STEREO model only), remove the flexible board from CN501

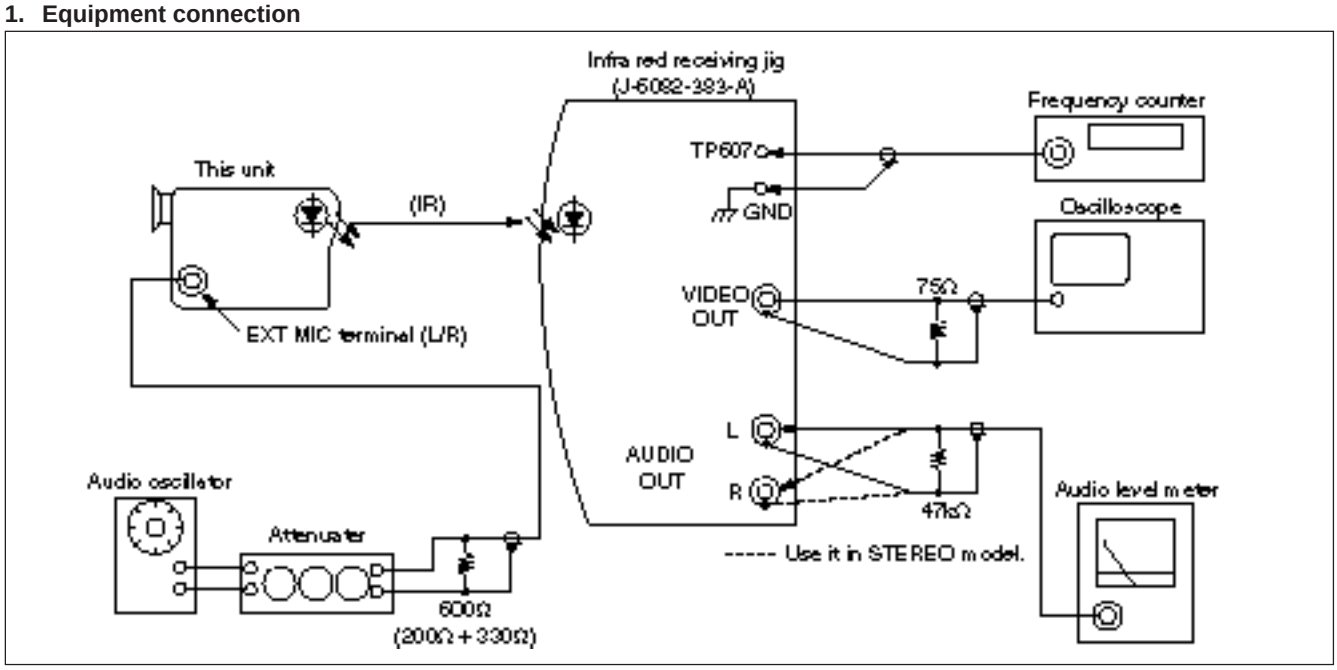
Check procedure:

Order	Procedure
1	Insert a shorting to pin ③ and pin ④, pin ③ and pin ② (STEREO model only) as CN501.
2	Make recording.
3	Remove the shorting plug.
*4	Playback the recorded segment.
*5	Confirm that the noise level at audio output terminal (Left/Right) is –65dBs or less.

6-5. INFRARED TRANSMIT CIRCUIT ADJUSTMENT (IR MODEL)

5-1. PREPARATIONS

1. Equipment connection



Resistors 75Ω : 1-247-804-11
270Ω : 1-249-410-11
330Ω : 1-249-411-11
47kΩ : 1-249-437-11

2. Switch setting

IR switch (VC-188 board S308) ····· ON

5-2. DEVIATION ADJUSTMENT

Purpose : Adjusts the carrier frequency when modulating the video signal.

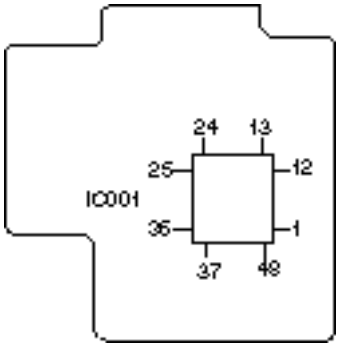
Adjustment error : Loss of synchronization or loss of color.

Mode	CAM-STANDBY
Signal	Any signal
Measurement Point	TP607 of the IR receiving jig or IC001 pin ⑯ of IR-28 board
Measuring Instrument	Frequency counter, Oscilloscope
Adjustment Page	F
Adjustment Address	5C
Specification Value	11.83 ± 0.05MHz

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data pf page : 6, address : 01, and record it.
3	6	01	43	After setting the data, press the PAUSE button.
4	F	5C		Change data using PLAY and STOP buttons so that the carrier frequency satisfies the specification. (Record mode)
5				Press the PAUSE button.
6	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
7	6	00	00	After setting the data, press the PAUSE button. (End)

IR-28 BOARD (SIDE A)



5-3. VIDEO DEVIATION ADJUSTMENT

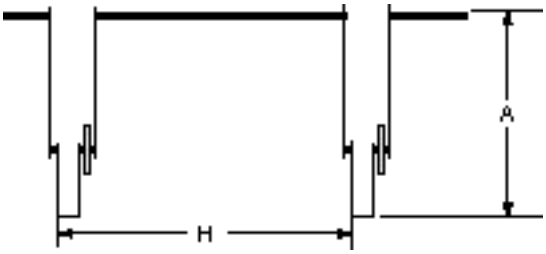
Purpose : Adjusts deviation when modulating the video signal.

Adjustment error : Too bright or too dark overall picture. Overmodulation picture. (If deviation is too wide, or too narrow.)

Mode	CAM-STANDBY
Signal	Any signal
Measurement Point	• VIDEO OUTPUT terminal of the unit (Terminated in 75Ω) • VIDEO OUTPUT terminal of IR receiving jig (Terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5D
Specification Value	B=Vo ± 0.05Vp-p

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2	6	01		Read the data pf page : 6, address : 01, and record it.
3	6	01	47	After setting the data, press the PAUSE button.
4				Record the output level “A” of the VIDEO OUTPUT terminal of the unit, as Vo. (Vo ✚ 1.0 ± 0.05Vp-p)
5	F	5D		Change data using PLAY and STOP buttons so that the Y signal level (B) satisfies the output (B) specifications of the VIDEO OUTPUT terminal of IR receiving jig.
6				Press the PAUSE button.
7	6	01		Set the data which is recorded in step 2 to this address and, press the PAUSE button.
8	6	00	00	After setting the data, press the PAUSE button. (End)



5-4. AUDIO DEVIATION ADJUSTMENT

Purpose : Adjusts deviation when modulating the audio signal.

Adjustment error : Loss of tape iner change ability

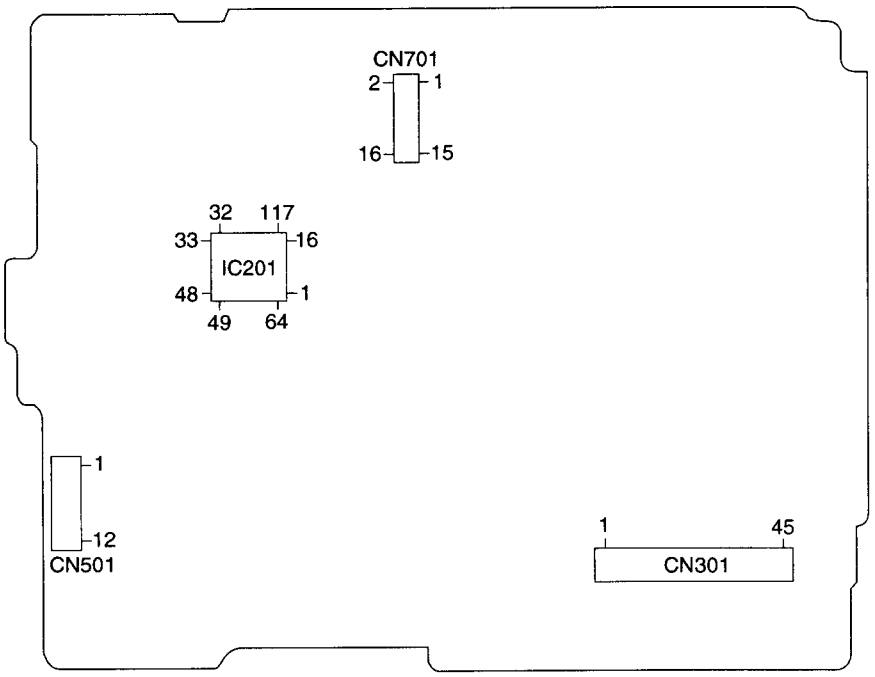
Mode	CAM-REC
Signal	EXT MIC terminal (L-ch and R-ch) of the unit 400Hz, –66dBs
Measurement Point	AUDIO output terminal (L/R) of IR receiving jig
Measuring Instrument	Audio level
Adjustment Page	F
Adjustment Address	5E
Specification Value	–7.5 ± 1.0dBs

Adjustment procedure:

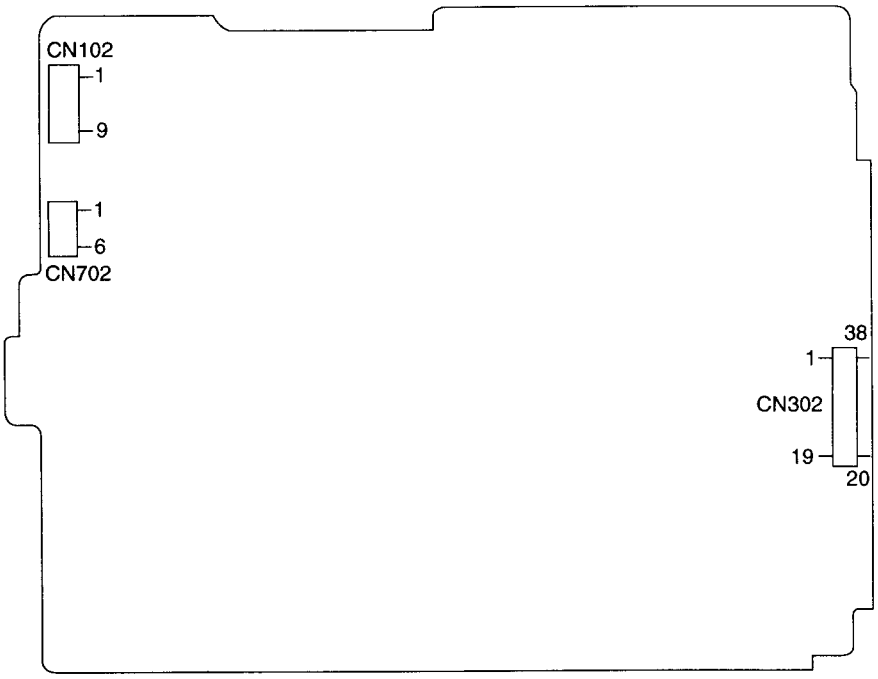
Order	Page	Address	Data	Procedure
1	6	00	01	After setting the data, press the PAUSE button. (Preparation)
2				Input the audio signal of 400 Hz, –66dBs to the EXT MIC terminal (L-ch and R-ch) of the unit.
3	F	5E		Press the PLAY and STOP buttons until the audio signal level of both L-ch and R-ch satisfies the specifications.
4				Press the PAUSE button.
5	6	00	00	After setting the data, press the PAUSE button. (End)

ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

VC-188 BOARD (SIDE A)



VC-188 BOARD (SIDE B)



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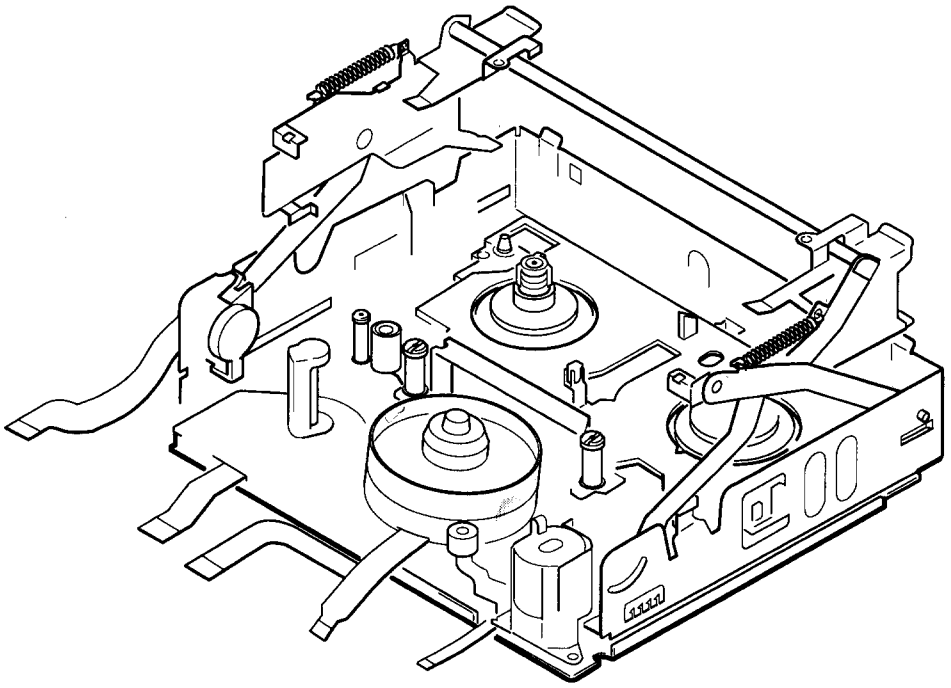
8mm Video MECHANICAL ADJUSTMENT MANUAL VII

B MECHANISM

Video8

Use this mechanical adjustment manual VII together with the service manual of the respective models.



MICROFILM

8 MECHANISM DECK

SONY

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For the mode selector operation, schematic diagram and parts list, refer to the Supplement-1 Manual.

1. PREPARATION FOR CHECKING, ADJUSTING AND REPLACING THE MECHANISM

For the disassembly procedures of the cabinet and printed wiring boards, please refer to the "DISASSEMBLY" section of the service manual of the respective models.

To re-assemble the mechanical parts which are disassembled in the following sections, perform the disassembly steps in reverse, unless otherwise specified.

The mechanisms are adjusted while set in the USE mode of operation. (Refer to the "Mode Selector Operation Procedure of the Supplement-1 Manual for how to enter the USE mode.)

1-1. Cassette Compartment Block Assy

1. Disassembly Procedure (Refer to Fig. 1.)

1) Set the mechanism to USE mode.
2) Confirm that the Cassette Compartment Block Assy is opened. If it is not opened, open it referring to Fig. a.
3) Remove the claws Ⓐ and Ⓑ of the Damper Assy ① from the chassis.
4) Remove the washer ② from the shaft of the Cassette Compartment near the Drum, next to the loading motor. Remove the shaft of the arm from the slot.
5) Remove the shaft of the arm from the slot Ⓒ of the Cassette Compartment near the Drum, next to the capstan motor. (Refer to Fig. b)
6) Lift up the Cassette Compartment at the Drum side in the direction of the arrow Ⓓ, and remove the arm shaft of the Cassette Compartment from the LS Chassis ④ near the Reel Tables. Remove the Cassette Compartment Assy ③ in the direction of the arrow Ⓔ.

2. Precautions During Re-Assembling

1) After attaching the Tension Spring, confirm that the straight portion at the end of the curved hook of the spring is positioned inside the mechanism. (Refer to Fig. c)
2) Confirm that the claw in the bottom of the shaft near the Reel Table of the Cassette Compartment is hooked to the LS Chassis.
3) Confirm that the claw of the Damper Assy is hooked to the LS Chassis. (Refer to Fig. b)

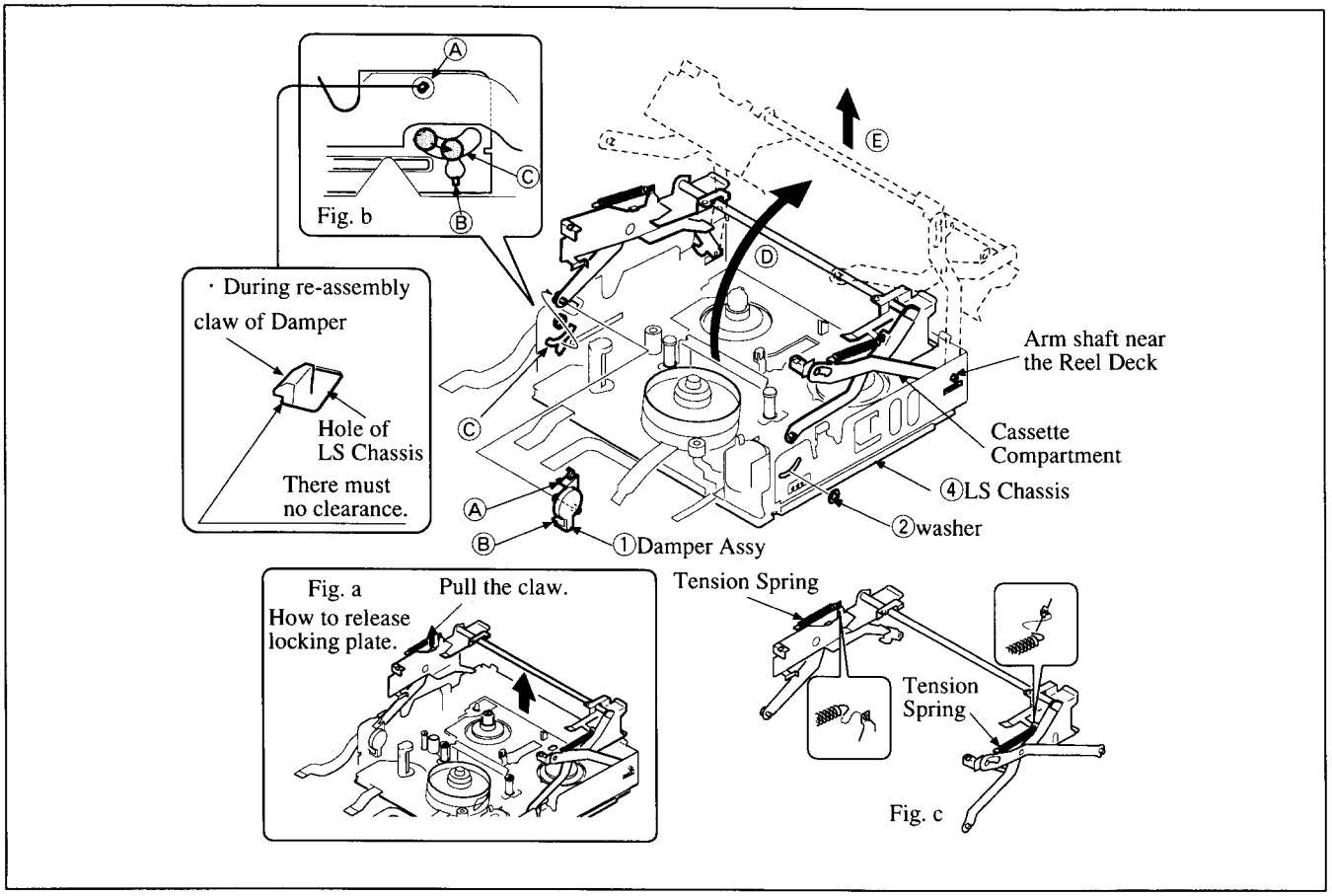


Fig. 1

1-2. How to Operate the Mechanism with the Cassette Compartment Block Assy Removed

1. How to load a cassette tape (Refer to Fig. 2):

1) While referring to section "DISASSEMBLY" of the respective service manual, turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
2) Connect the adjustment remote commander (Ref. No. J-10) and establish the TEST mode.

> Example of establishing the TEST mode: model CCD-TR420E/TR440E.
> Select page: 6, address: 00, set data :01 and press the PAUSE button to release protection.
> Select page: 7, address: 01, set data: 01 and press the PAUSE button.
> After tape loading or other desired operations of mechanism are completed, be sure to perform the following:
> Select page: F, address: 01, set data :00 and press the PAUSE button.
> Select page: 6, address: 00, set data: 00 and press the PAUSE button.

3) Press the push-switch ① knob in the direction of the arrow which sets the machine into loading mode.

☆ PB, FF/REW and CUE/REV operations are possible.

2. How to establish RECORD mode:

1) Press pin of the push-switch ② (ON state) and keep the ON state by fixing with adhesive tape ③.
2) Turn the main power switch ON (select VTR or CAMERA position of in case of camera).
3) Set the RECORD switch to ON.
   (When the TEST mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

1) Press the EJECT switch to ON.

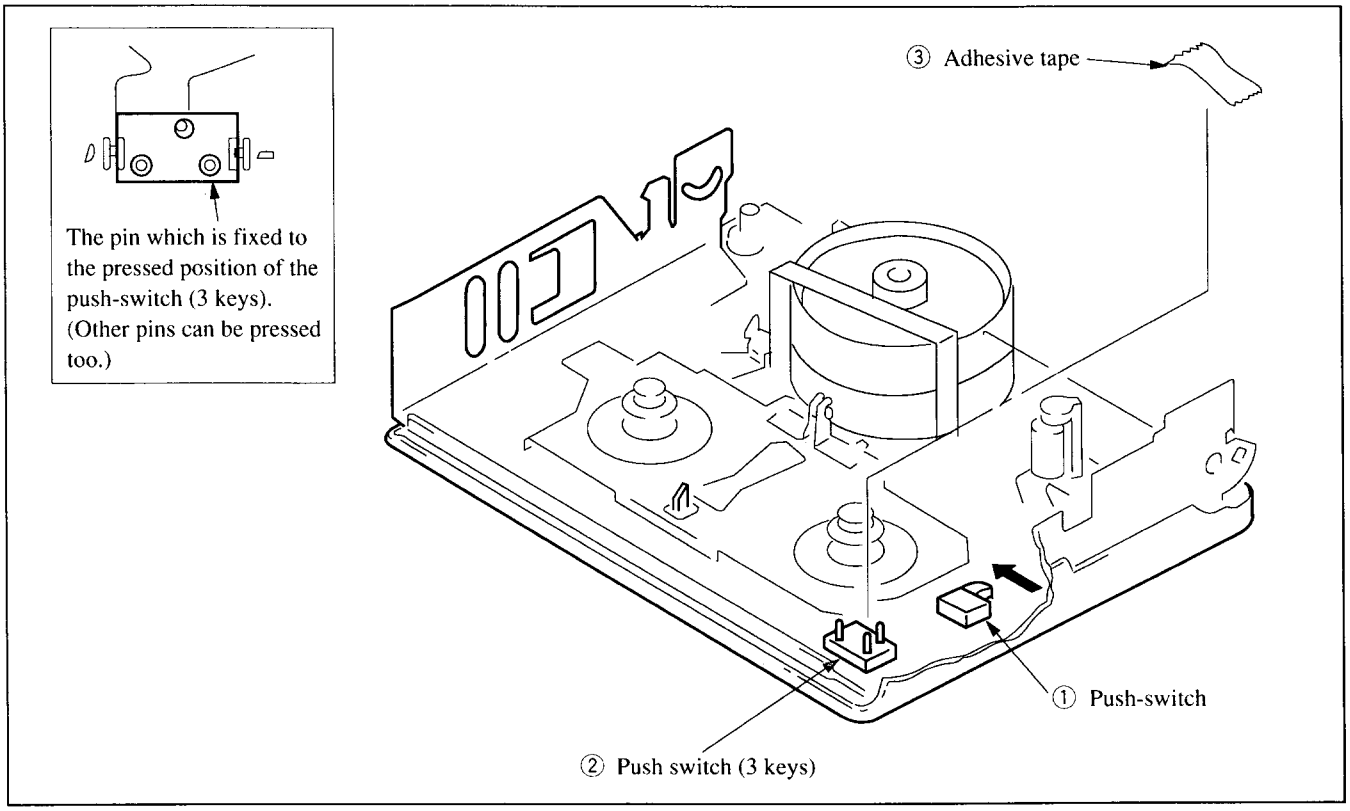

The pin which is fixed to the pressed position of the push-switch (3 keys). (Other pins can be pressed too.)
③ Adhesive tape
① Push-switch
② Push switch (3 keys)

Fig. 2

2. PERIODIC CHECK AND MAINTENANCE ITEMS

- Perform the following periodic check and maintenance to ensure that the machine functions continue to operate in peak condition, and to protect the tape and mechanism deck. After completing repair work, perform the following maintenance items regardless of how long the user's machine has been used.

2-1. Rotary Drum Assy Cleaning

Press the cleaning piece (Ref. No. J-2) moistened with cleaning fluid (Ref. No. J-1) lightly on the Rotary Drum Assy. Gently turn the Rotary Drum Assy slowly by hand counter-clockwise to clean the rotary drum.

Caution: Never attempt to turn the head drum motor by turning the main power ON. Also, never turn the drum clockwise by hand. In addition, never move the cleaning piece vertically with respect to the head tips, since this will damage them. Never clean the head drum in any way other than as described above.

2-2. Tape Path Cleaning (Refer to Fig. 3.)

1) Set the mechanism to USE mode. Clean the tape path system (TG-1, TG-2, TG-3, TG-4, pinch roller, capstan shaft) and lower drum using a very thin cotton swab (Ref. No. J-3) moistened with cleaning fluid.

Caution: Take care that the very thin cotton swab (Ref. No. J-3) does not touch the oil or grease of the various link mechanisms.

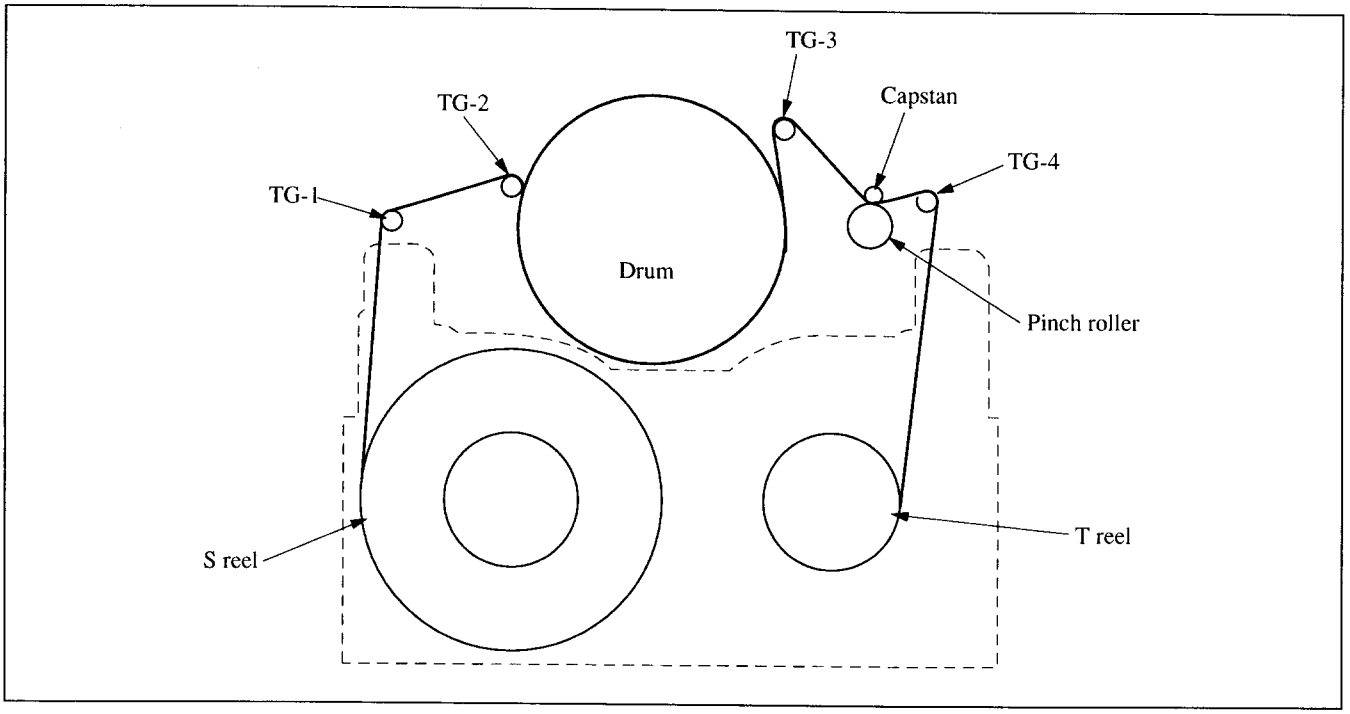


Fig. 3

2-3. Periodic Check Items

	Maintenance and Inspection Points	Operating Hours										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape running surface	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
	Cleaning and degaussing of Rotary Drum Assy	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
Drive System	Timing Belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-965-546-01
	Capstan Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	Take great care not to let any oil contact the tape running surface.
	Change Gear Shaft Relay Pulley Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Loading Motor	—	☆	—	☆	—	☆	—	☆	—	☆	X-3945-401-1
Performance Check	Abnormal Sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Tape Hold-back Tension Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake System	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD / RVS Torque Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

○Cleaning ◎Lubrication ☆Check

Note: When overhauling the machine, replace the parts while referring to the above table.

Note: Regarding oil

- Be sure to use the specified oil. (If the viscosity and other characteristics are different, various troubles may arise.)
  Oil: Sony part No. 7-661-018-18
  (Mitsubishi diamond oil hydro fluid NT-68)
- For the oil lubricated bearings, use oil free from dust or foreign materials. If the oil contains any dust or foreign material, the bearings will wear out quickly or burn out.
- One drop of oil is the amount of oil which forms at the tip of a stick of 2 mm diameter.

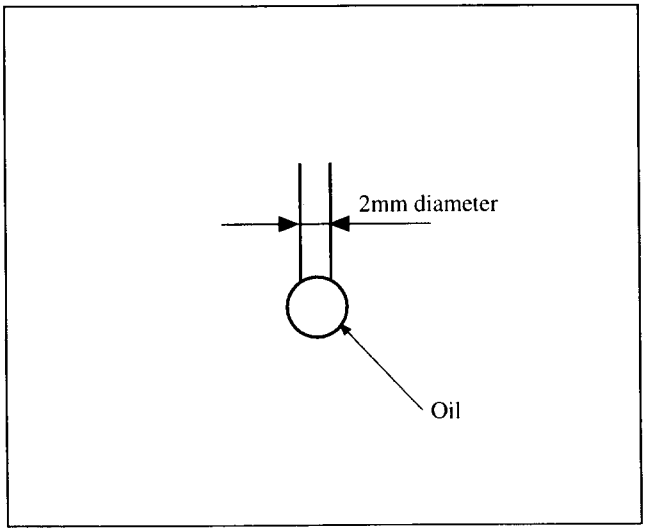


Fig. 4

2-4. Service Tool List

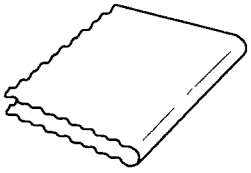
Ref. No.	Name	Parts Code	Tool Stamp	Applications
J-1	Cleaning fluid	Y-2031-001-0	—	
J-2	Cleaning piece	2-034-697-00	—	
J-3	Very thin cotton swab (made by Nippon Cotton Swab Inc. (P752D))		—	
J-4	Head demagnetizer	Commercially available	—	
J-5	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape (NTSC : WR5-1NP) (PAL : WR5-1CP)	8-967-995-02 8-967-995-07	—	Tape path
J-7	FWD/RVS take-up torque cassette	J-6080-824A	GD-2086	
J-8	Screwdriver for tape path adjustment	J-6082-026-A	—	For tape guide adjustment
J-9	FWD/BACK tension adjustment screwdriver	J-6082-187-A	—	
J-10	Remote commander for adjustment	J-6082-053-B	—	Tape path (Setting PATH mode)
J-11	MD process table	J-6082-166-A	—	
J-12	FLOIL Grease SG-941	7-662-001-39	—	
J-13	FLOIL Grease SG-055G	7-651-000-09	—	

Other equipment

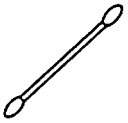
- Oscilloscope
- Analog circuit tester (input impedance 20 kΩ)

J-1

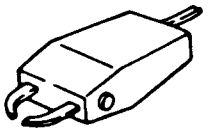
J-2



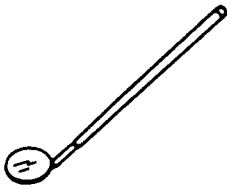
J-3



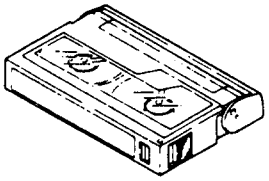
J-4



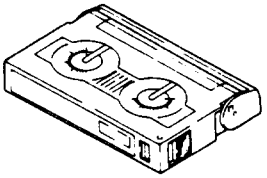
J-5



J-6



J-7



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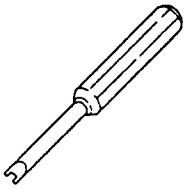

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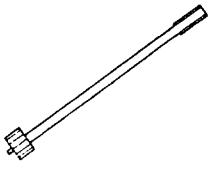

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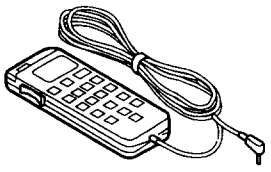

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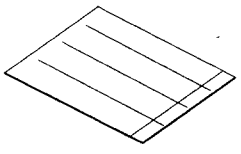

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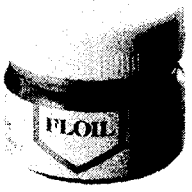


J-13

3. CHECKING, ADJUSTING AND REPLACING THE MECHANISM

3-1. HC Roller Block Assy (Refer to Fig. 5)

1. Disassembly Procedure

1) Remove the Torsion Spring ① from the cut-out Ⓐ of the motor holder. Hook it to the claw Ⓑ of the HC Arm.
2) Remove the HC Roller Block Assy in the direction shown by Ⓒ.
3) Remove the stop washer ② and remove the HC Roller Block Assy ③.

2. Precautions During Re-Assembly

1) After attaching the HC Roller Block Assy, confirm that both ends of the torsion spring are hooked to Ⓐ and Ⓓ.
2) Align the block so that the cut-out Ⓔ agrees with the rib Ⓕ.

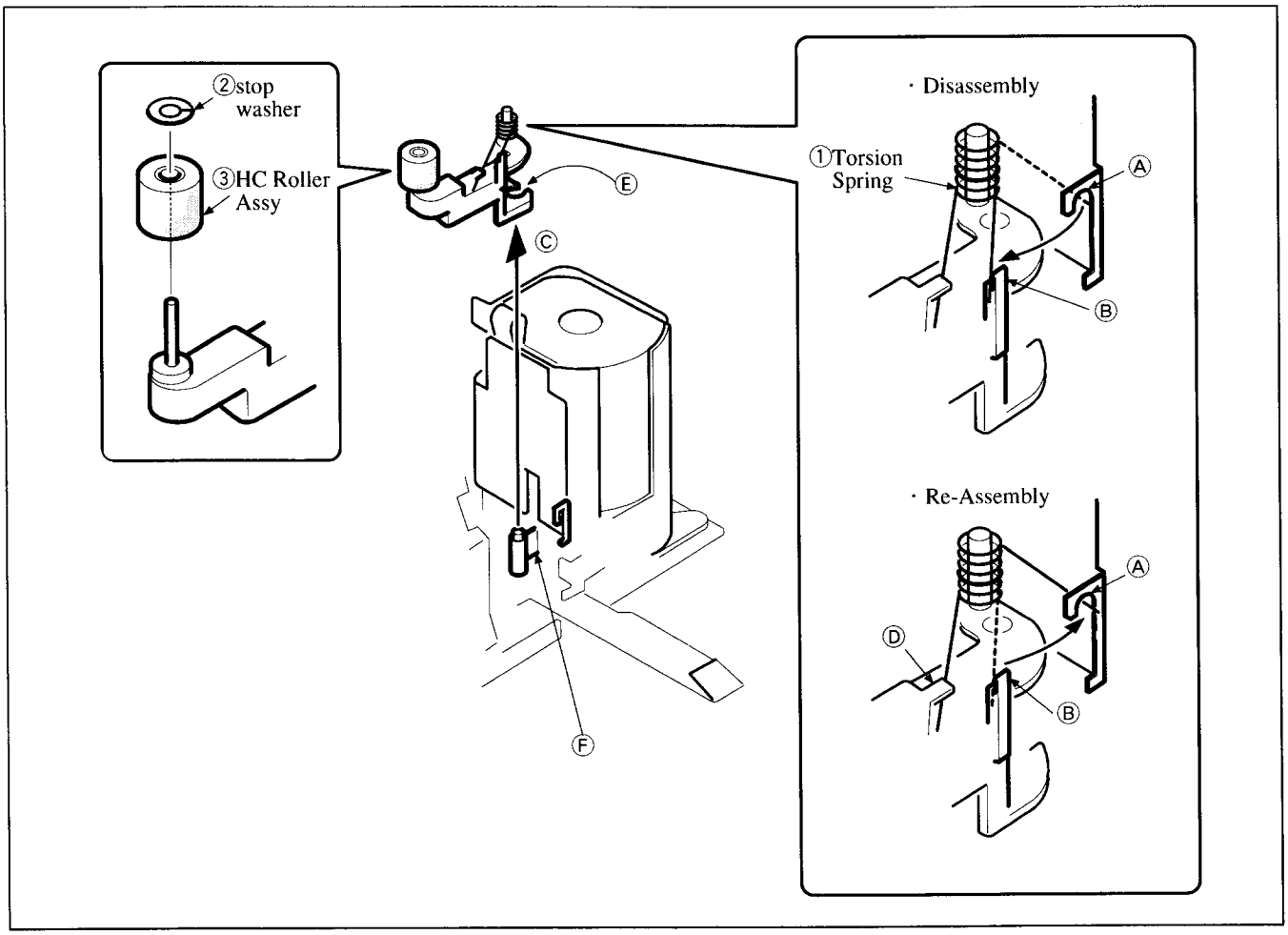


Fig. 5

3-2. Drum Assy (Refer to Fig. 6)

1. Disassembly Procedure

1) Set the mechanism to USE mode.
2) Remove the three screws (M 1.4) ① and remove the Drum Assy ②.

Caution: Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)

2. Precautions During Re-Assembly

1) Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)
2) When tightening the three screws (M 1.4), tighten them in the order Ⓒ, then Ⓓ, then Ⓔ.
3) After attaching the Drum Assy, perform the steps in section "4. TAPE PATH ADJUSTMENT".

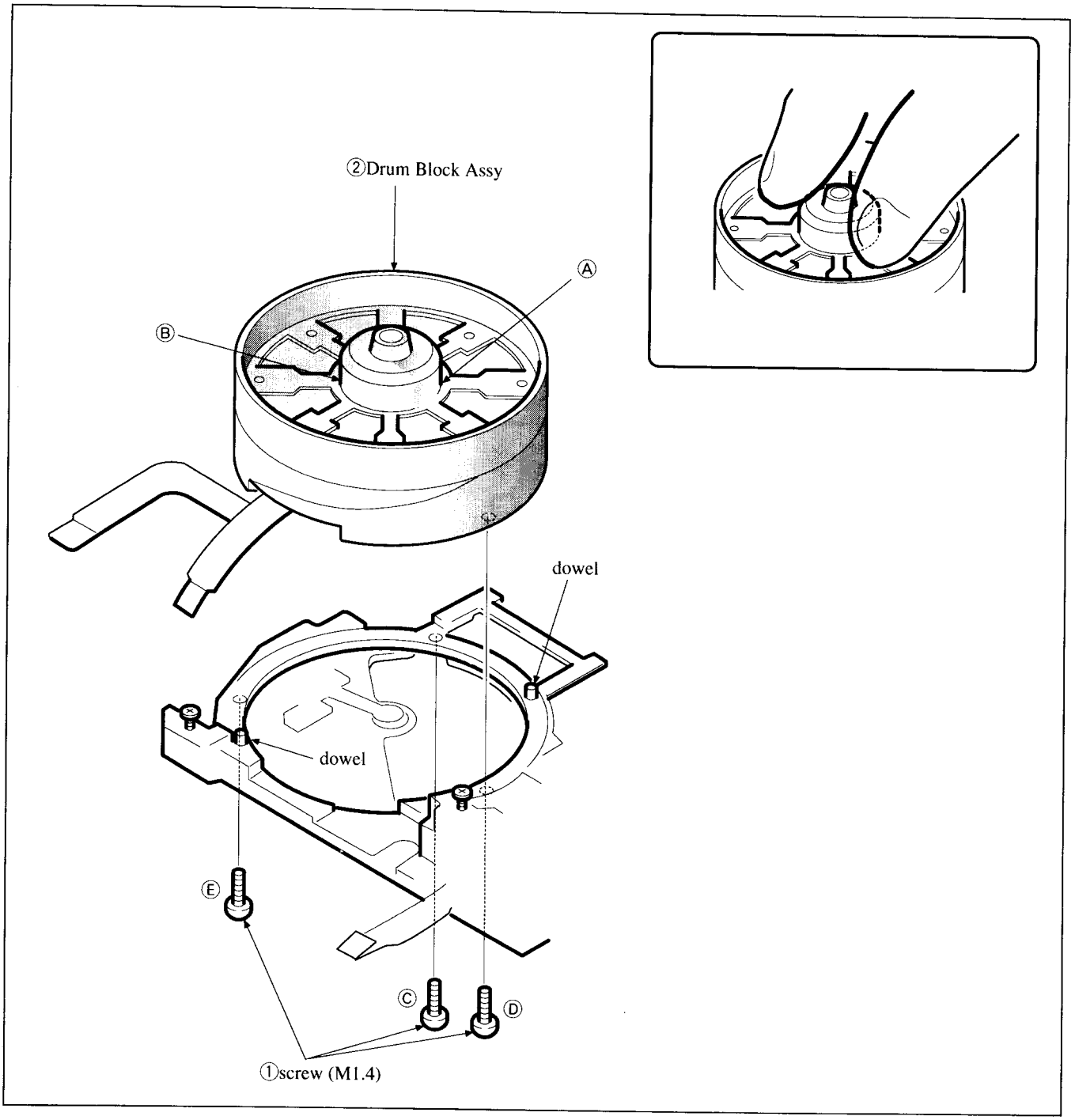


Fig. 6

3-3. Drum Base Block Assy, Shaft Ground (Refer to Fig. 7)

1. Disassembly Procedure

1) Remove the Drum Assy referring to section 3-2.
2) Remove the three screws (M 1.4×2.5) ① and remove the Drum Base Block Assy ②.
3) Remove the screw (M 1.7×1.4) ③ and remove the Shaft Ground ④.

Caution 1: Do not hold the spring portion of the Shaft Ground ④.

Caution 2: The loading motor can be removed while the mechanism is in this state. However, do not move any other mechanical parts (especially gears and cams around the rotary switch) when removing the loading motor. (Refer to 3-11.)

2. Precautions During Re-Assembly

1) Do not touch the spring portion of the Shaft Ground ④.
2) When tightening the three screws (M 1.4×2.5), tighten them in the order of Ⓐ, then Ⓑ, then Ⓒ.
3) After re-assembly is completed, perform the steps in section "4. TAPE PATH ADJUSTMENT".

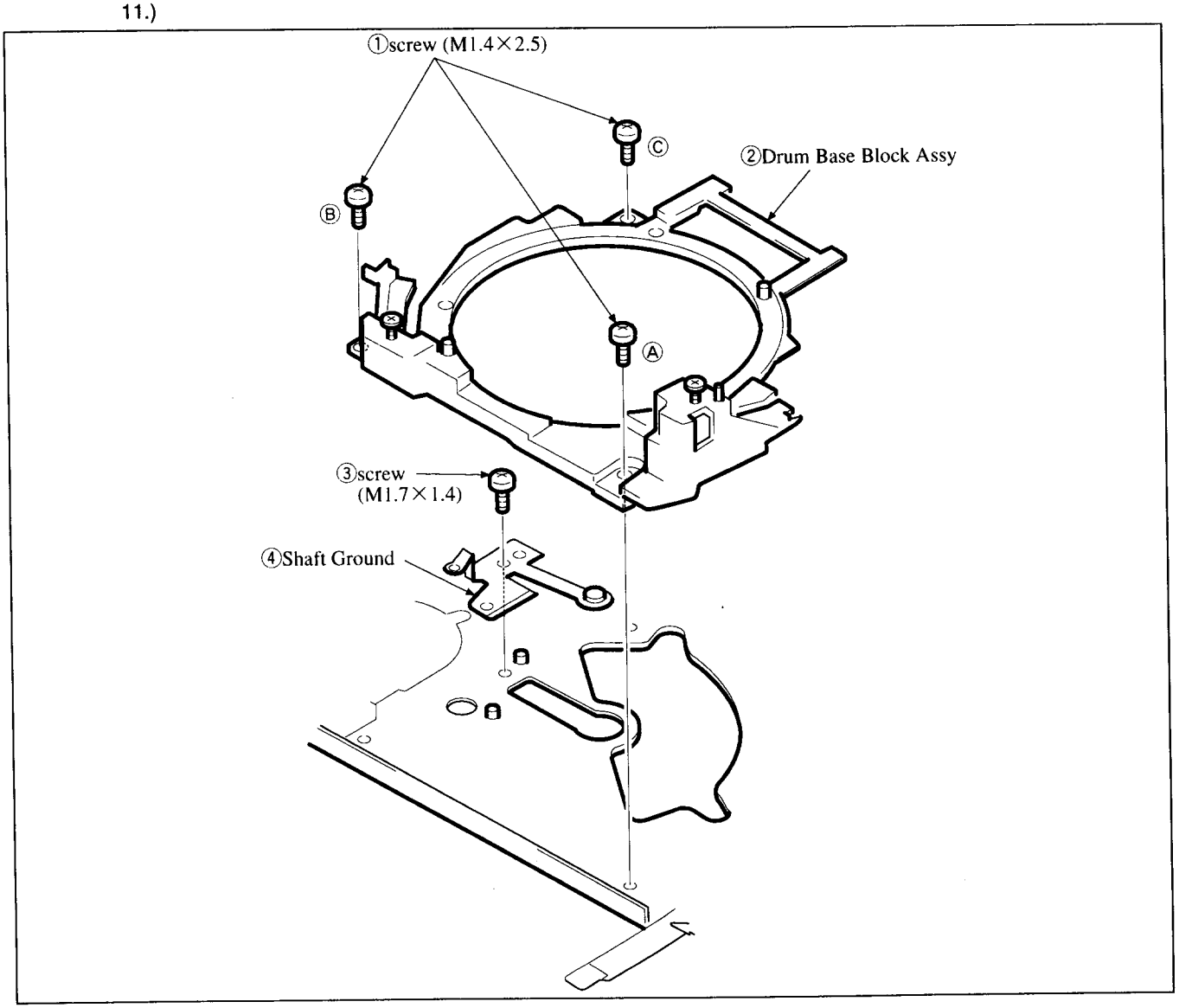


Fig. 7

3-4. Gooseneck Retainer, Gooseneck Gear Assy (Refer to Fig. 8)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the LED ① from the LED holder of the Gooseneck Retainer ③.
   (Turn the flexible board 90° outside and remove it upward.)
3) Remove the three screws (M 1.4×2.5) ② and remove the Gooseneck Retainer ③.
4) Remove the stop washer ④ and remove the Gooseneck Gear Assy ⑤.

2. Precautions During Re-Assembly

1) When attaching the Gooseneck Retainer ③, take care that the Gooseneck Retainer ③ does not collide with the tension regulator band. (The tension regulator band must be located inside.)
2) Hook the T-side claw on the guide.

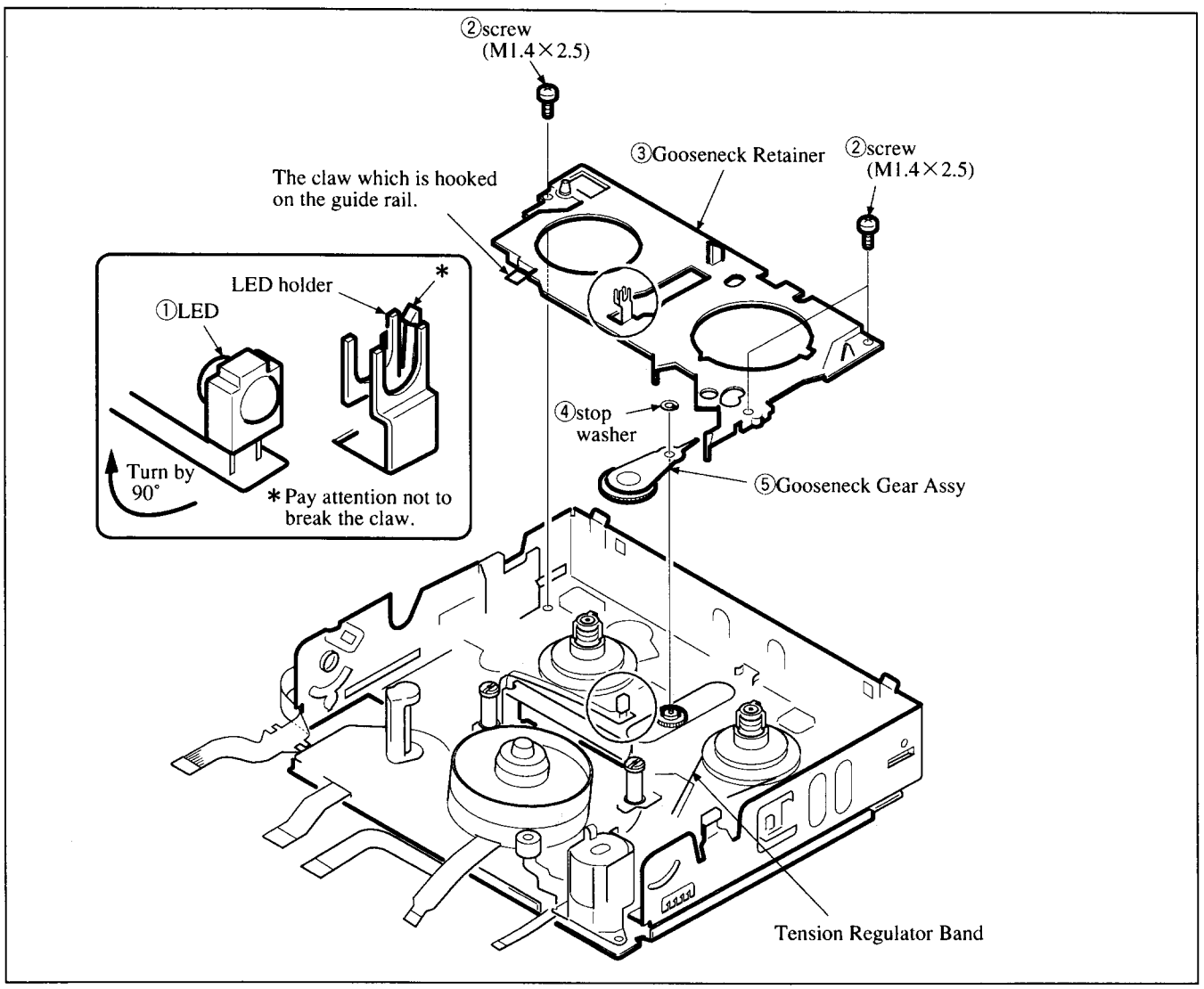


Fig. 8

3-5. LS Chassis Block Assy, Mechanical Chassis Block Assy (Refer to Fig. 9)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the FP-221 flexible board ① from the flexible board holder.
4) Remove the stop ring E1.5 ②.
5) Remove the two screws (M 1.4×2.5) ③ and remove the LS Chassis Block Assy ④ from the Mechanical Chassis Block ⑤ in the direction of the arrow Ⓐ.

Note: The Tension Regulator Plate (2) can easily fall into the Mechanical Chassis Block Assy. Take care not to drop it.

2. Precautions During Re-Assembly

1) Before attaching the LS Chassis Block Assy, confirm that the respective phase-determining holes have been adjusted for correct phase. Also confirm that the specified locations of the Mechanical Chassis Block Assy and the LS Chassis Block Assy are coated with grease SG-055G (Ref. No. J-13). (Refer to Fig. a)
2) When attaching the LS Chassis Block Assy, insert the LS Cam Plate (on the LS chassis side) into the dowel (on the mechanical chassis side). Also insert the TG1 Cam Axis (on the LS chassis side) into the Tension Regulator Plate (2) (on the mechanical chassis side).
3) When attaching these block assemblies, attach them while pressing the TG-1 Arm Assy in the direction toward the TG-2 Guide. (Refer to Fig. b)
4) Pay attention that the TG-1 Arm is not floated.

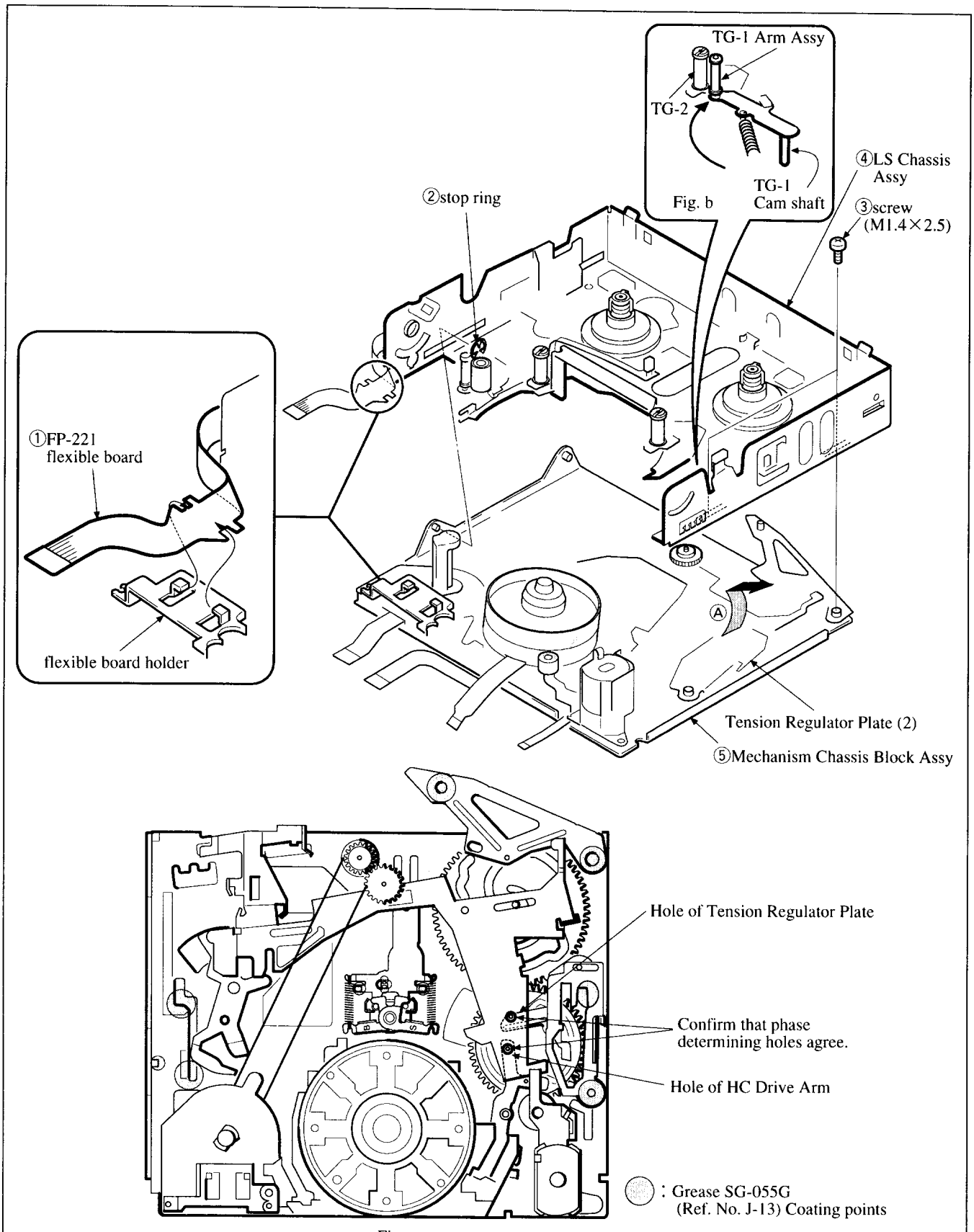

TG-1 Arm Assy
TG-2
TG-1
Cam shaft
Fig. b
④LS Chassis Assy
③screw (M1.4×2.5)
②stop ring
①FP-221 flexible board
flexible board holder
Tension Regulator Plate (2)
⑤Mechanism Chassis Block Assy
Hole of Tension Regulator Plate
Confirm that phase determining holes agree.
Hole of HC Drive Arm
: Grease SG-055G (Ref. No. J-13) Coating points

Fig. a

Fig. 9

- **PARTS CONSTITUTING THE LS CHASSIS.**

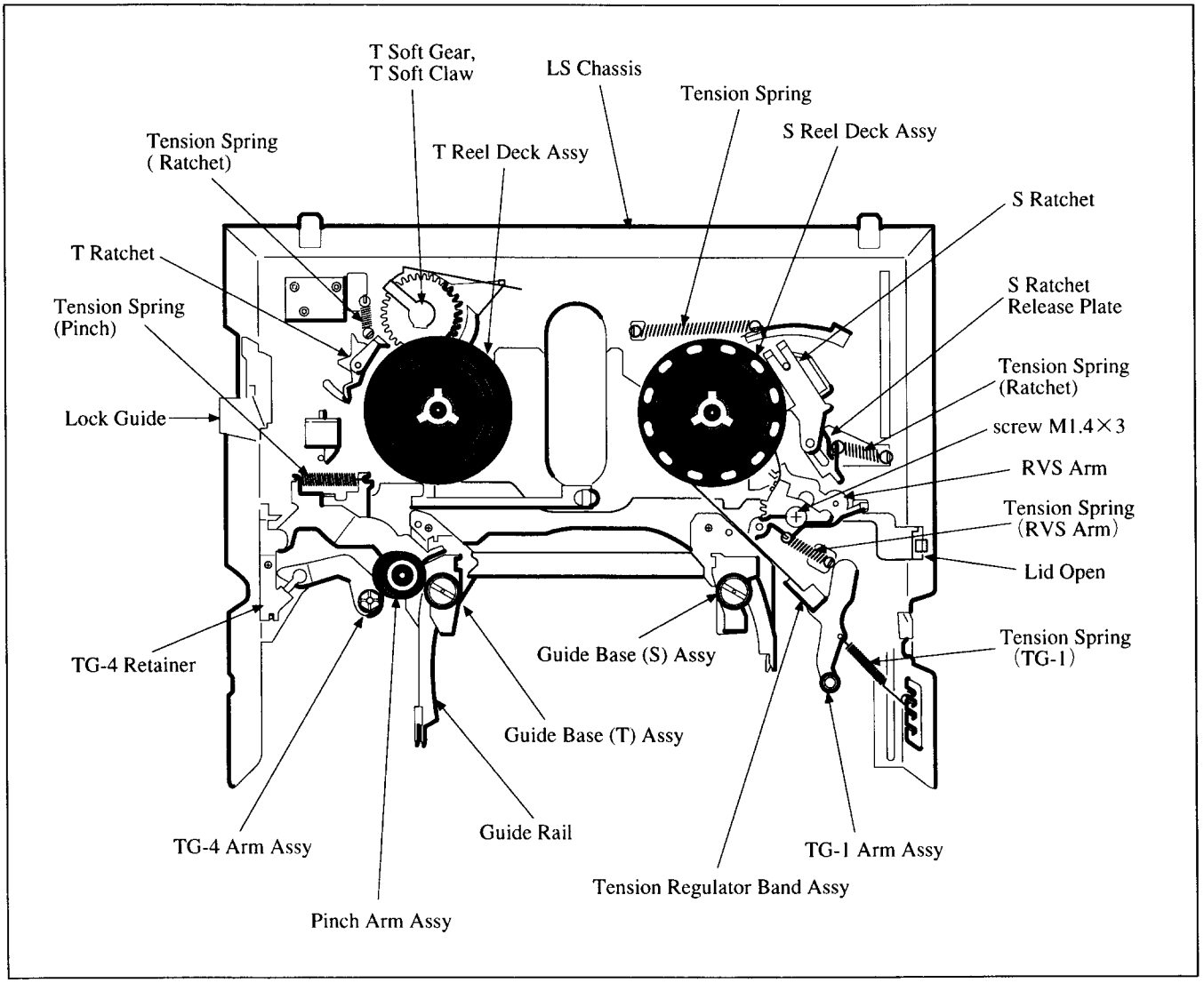


Fig. 10

3-6. T Reel Table Assy, T Ratchet, T Soft Gear Block Assy (Refer to Fig. 11)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the claw of the T Reel Deck Assy ① from the chassis and remove the T Reel Deck Assy from its shaft.
4) Remove the Tension Spring (Ratchet) ② from the LS Chassis and turn the T Ratchet ③ in the direction of the arrow Ⓐ and remove it .
5) Turn the T Soft Gear Block Assy ④ in the direction of the arrow Ⓑ and remove it .

2. Precautions During Re-Assembly

1) Confirm that the protrusions of both the T Soft Gear Block Assy and T Ratchet are securely locked to the LS Chassis.
2) Be careful not to deform the claw.

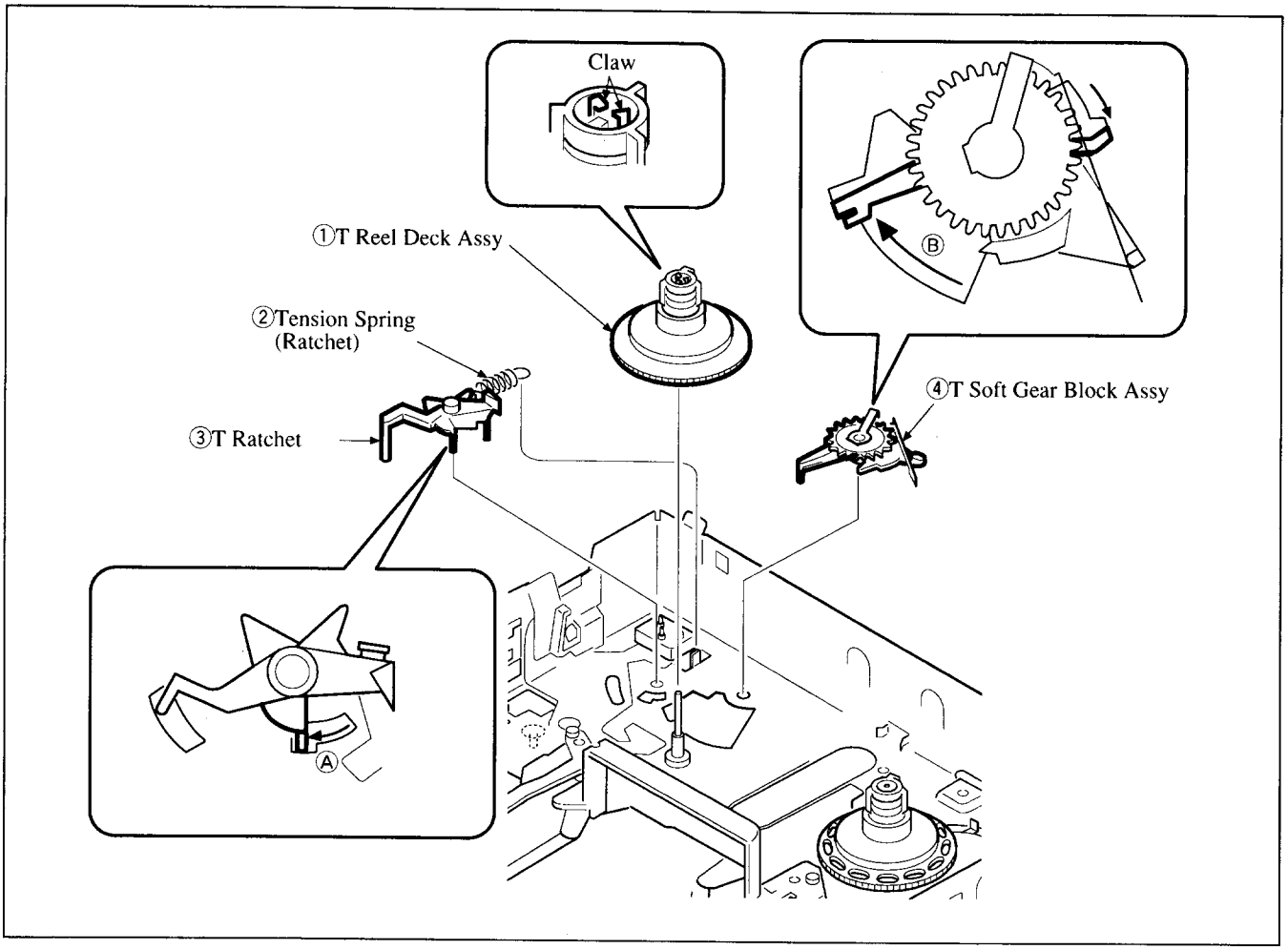


Fig. 11

3-7. Tension Regulator Band Assy, TG1 Arm Assy, S Reel Table Assy, S Ratchet, S Ratchet Release Plate, RVS Arm (Refer to Fig. 12)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the Tension Spring (TG1) ① from the LS Chassis.
4) Remove the screw (M 1.4×3) ② and remove the Tension Adjustment Block of the Tension Regulator Band Assy ④ form RVS Arm.
5) Release the S Ratchet ⑥ in the direction of the arrow Ⓐ and remove the Tension Regulator Band (while taking care not to bend the band) from the S Reel.
6) Remove the TG1 Arm Assy ③ from the LS Chassis, then remove the claw of the Tension Regulator Band Assy ④. (Refer to Fig. a)
7) Remove the claw of the S Reel Deck Assy ⑤ from the chassis and remove the S Reel Deck Assy from its shaft.
8) Remove the S Ratchet ⑥. (Because it is press-fitted, insert tip of screwdriver into the center of rotation and remove it.
9) Remove the Tension Spring (ratchet) ⑦ from the LS Chassis and remove the S Ratchet Release Plate ⑧.
10) Remove the Tension Spring ⑨ from the LS Chassis and remove the RVS Arm ⑩ by turning it..

2. Precautions During Re-Assembly

1) Confirm that the dowel of the S Ratchet Release Plate is inserted into the groove of the S ratchet and confirm that the center of the ratchet is press-fitted into bottom of the shaft. (It can be used again.)
2) When attaching the Tension Regulator Band Assy, take care not to bend it.
3) Pay attention that oil or grease is not spit on the surface of the Tension Regulated Band. (Pay attention also not to touch it with hand directly.)
4) Confirm that the tension regulator band is correctly inserted into the groove of the S Reel Deck Assy ⑤. (Refer to Fig. b)
5) When securing the Tension Adjustment Block using the screw, press it toward the position which gives the least tension, then tighten the fixing screw.
6) Before attaching the TG1 Arm Assy, coat the LS Chassis TG1 boss with oil (1/2 drop).
7) Do not touch the tape guide of the TG1 Arm Assy with bare hands.
8) Confirm that the claw of the S Reel Deck Assy is not deformed.

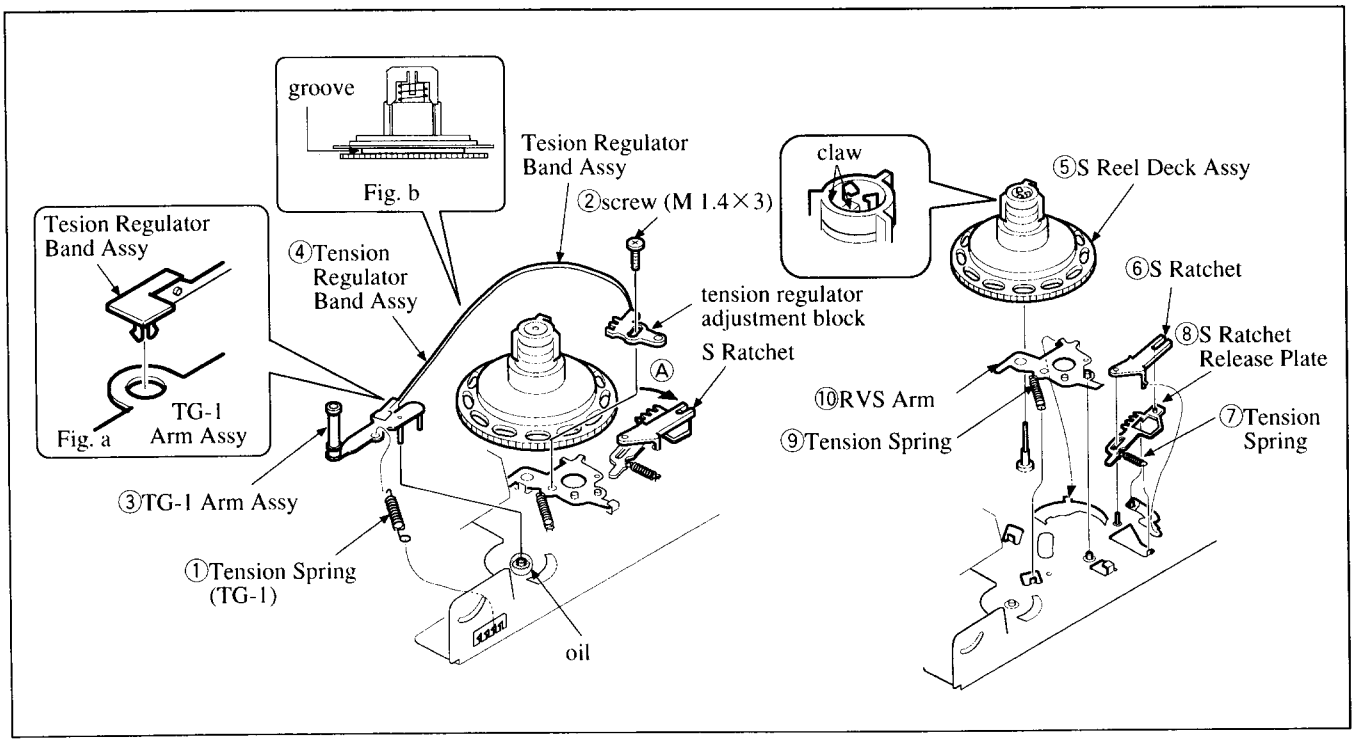


Fig. 12

3-8. Pinch Arm Assy, TG4 Arm Block Assy (Refer to Fig. 13)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the Torsion Spring (pinch) ① from an end of Pinch Arm and hook it on the cut-out Ⓐ of the LS Chassis.
5) Remove the screw (M 1.4×2.5) ② and remove the TG4 Retainer ③.
6) Remove the TG4 Arm Block Assy ④ and remove the Torsion Spring ⑤ while paying attention to the Torsion Spring ⑤.
7) Remove the Pinch Arm Assy ⑥. (Caution: The Pinch Press Roller is easy to drop. Pay attention not to drop it.)
8) Remove the Torsion Spring (pinch) ① from the cut-out of the LS Chassis in the order of Ⓐ then Ⓑ.

2. Precautions During Re-Assembly

1) Before attaching these parts, coat the LS chassis pinch arm boss and TG4 arm boss with grease SG-055G (Ref. No. J-13).
2) Do not touch the tape guide of the TG4 Arm Block Assy and roller of the Pinch Arm Assy with bare hand.
3) After coating the Pinch Press Shaft of the Pinch Arm Assy ③ with grease SG-055G (Ref. No. J-13), attach the Pinch Press Roller.

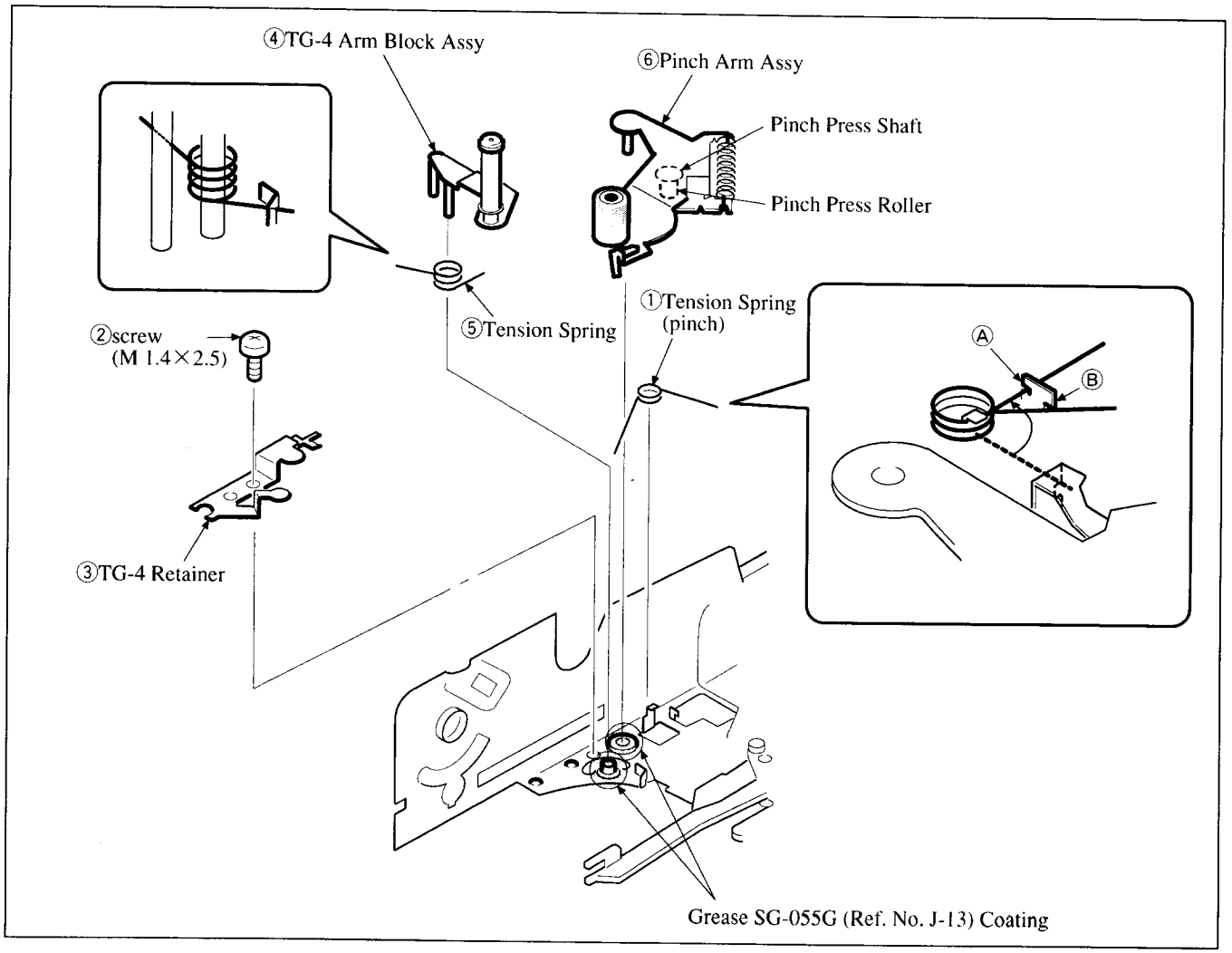


Fig. 13

3-9. LS Cam Plate, LS Guide Cover, Lid Opener, EJ Arm, Lock Guide (Refer to Fig. 14)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the two screws (M 1.4×2.5) ① and remove the the LS Cam Plate ②.
   In this state, write a mark on the screw ① and on the LS Chassis indicating the position of the LS Cam Plate which helps during re-assembly.
5) Remove the LS Guide Cover ③.
6) Remove the Lock Guide ④ in the upward direction. (Refer to Fig. a)
7) Remove the Lid Open ⑤ in the direction of the arrow Ⓒ while pushing Ⓑ portion .
8) Remove the EJ Arm ⑥ . (The EJ Arm ⑥ is press-fitted. If the EJ Arm ⑥ is not damaged, it is not necessary to replace.)

2. Precautions During Re-Assembly

1) After the captioned parts are attached, confirm that the respective claws and dowels are engaged completely.
2) If the EJ Arm ⑥ is removed, be sure to replace it with the new replacement EJ Arm.
3) If any mark is not written when removing the LS Cam Plate ②, adjust and attack it as shown in Fig. b.

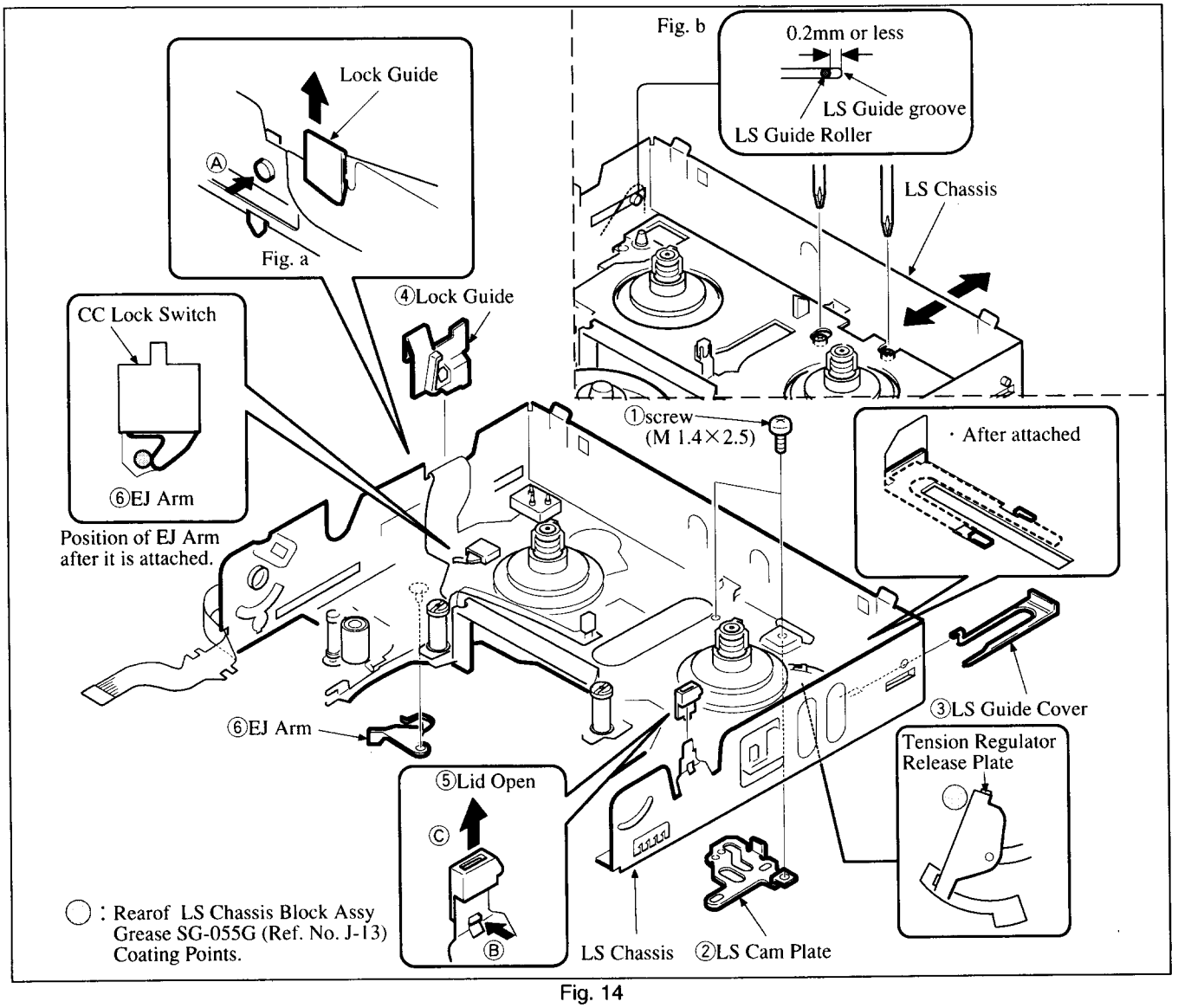


Fig. 14

3-10. Guide Base (S) and (T) Block Assemblies, Guide Rail (Refer to Fig. 15)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) While pushing the GB Stoppers (S) and (T) in the direction of arrow Ⓐ, press the guide arm in the direction of the arrow Ⓑ, and turn the Guide Base (S) and (T) Block Assemblies : ① and ② in the direction of the arrow Ⓒ respectively, and remove them.
5) Remove the two screws (M 1.4×2.5) ③ and remove the the Guide Rail Assy ④.
6) Remove the Stopper (S) and (T) : ⑤ and ⑥, then remove the GB Stopper S and T: ⑦ and ⑧.

2. Precautions During Re-Assembly

1) Pay attention not to deform the Guide Rail.
2) Do not touch the tape guide of the Guide Base (S) and (T) Block Assemblies with bare hand.
3) Pay attention not to deform the Stoppers (S) and (T).
4) When attaching the Guide Base (S) and (T) Blocks to the Guide Rail, move back the Guide Bases until the GB Stoppers (S) and (T) are locked. ("Click" sounds.)
5) After the captioned parts are attached, perform section "4. TAPE PATH ADJUSTMENT".

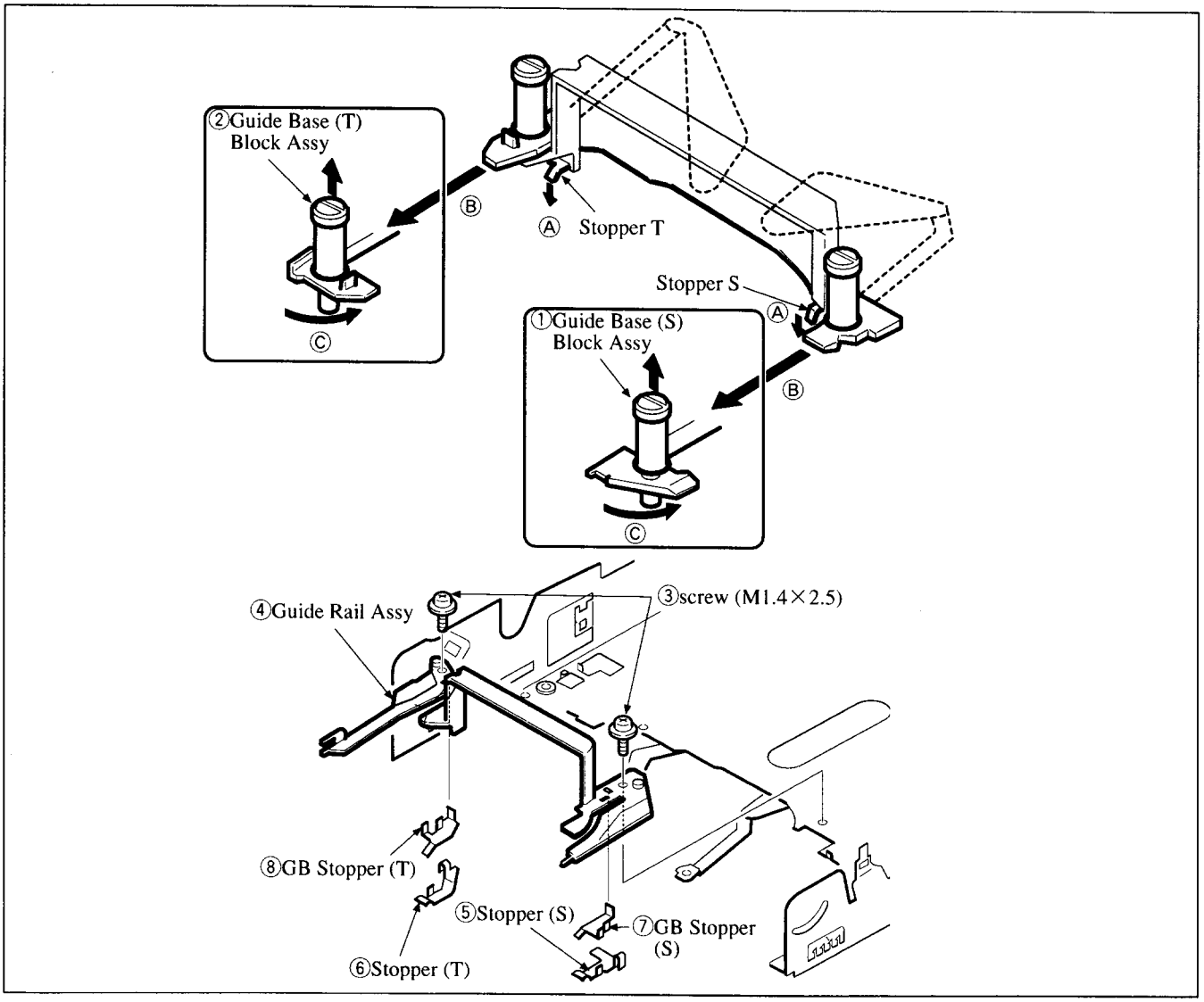


Fig. 15

- **PARTS CONSTITUTING THE MECHANISM CHASSIS**

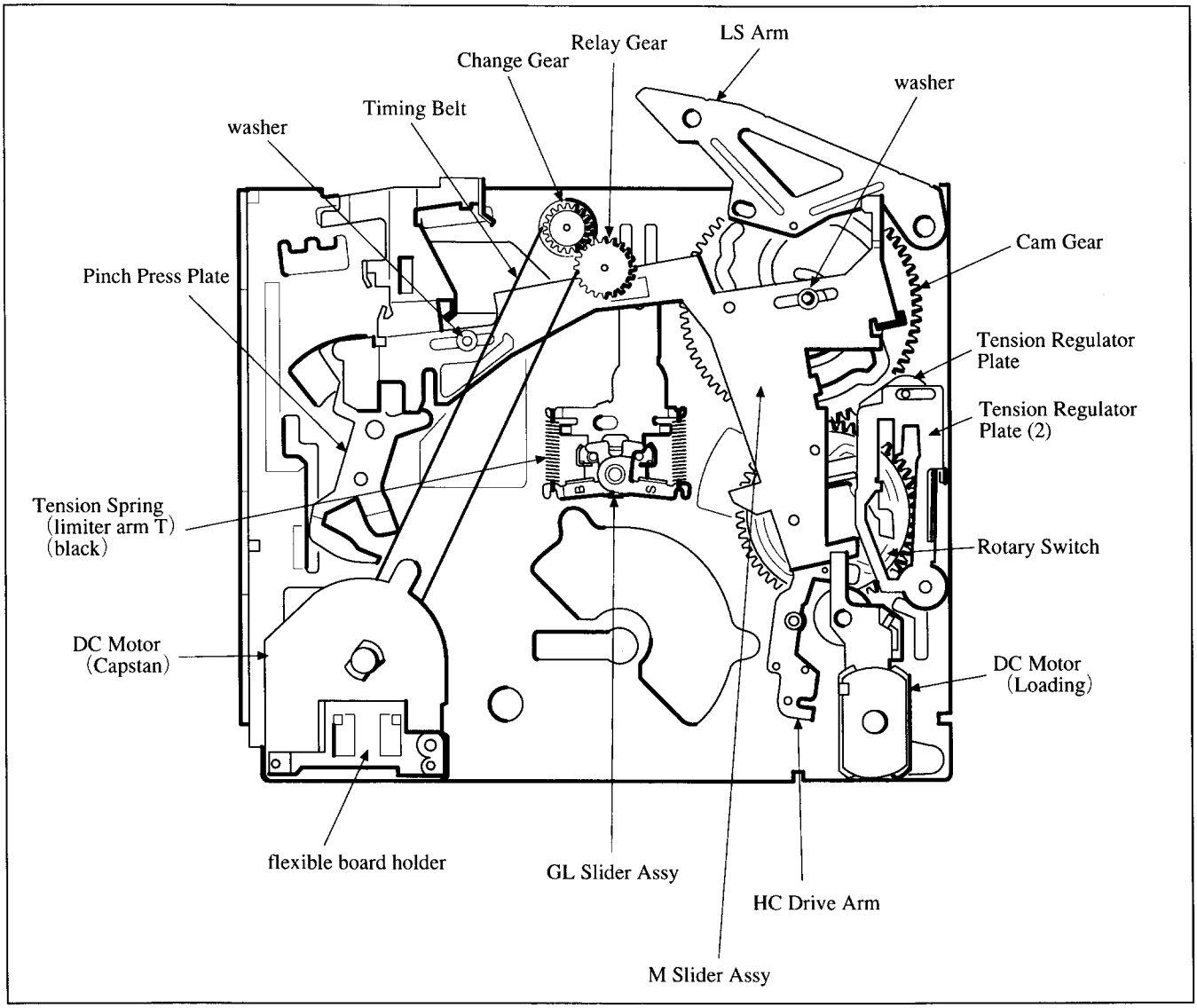


Fig.16

3-11. DC Motor Assy (Loading)
(Refer to Fig. 17)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove soldering from the Ⓐ portion.
8) Remove the screw (M 1.4×2.5) ① and remove the Motor Holder Block Assy ② from the mechanism chassis along with the claw beneath the Motor Holder Block Assy as shown by the arrow Ⓑ.
9) Remove the Motor Shield ③ in the direction of the arrow Ⓒ (by opening the two ★ star marked points).
10) Release the claw on top of the Motor Holder ⑤ and remove the DC Motor Assy ④ in the direction of the arrow Ⓓ.
11) Remove the Motor Holder Sleeve ⑥, Gear A⑦ and Worm Shaft ⑧ in this order.

2. Precautions During Re-Assembly

1) Before attaching the Gear A ⑥, coat the Retainer Shaft Ⓔ with grease SG-055G (Ref. No. J-13).
2) After assembling the Motor Holder Block Assy, coat the six locations shown by Fig. a with grease SG-055G (Ref. No. J-13).
3) The HC Drive Arm is easy to drop. Confirm that it is attacked referring to Fig. 19.

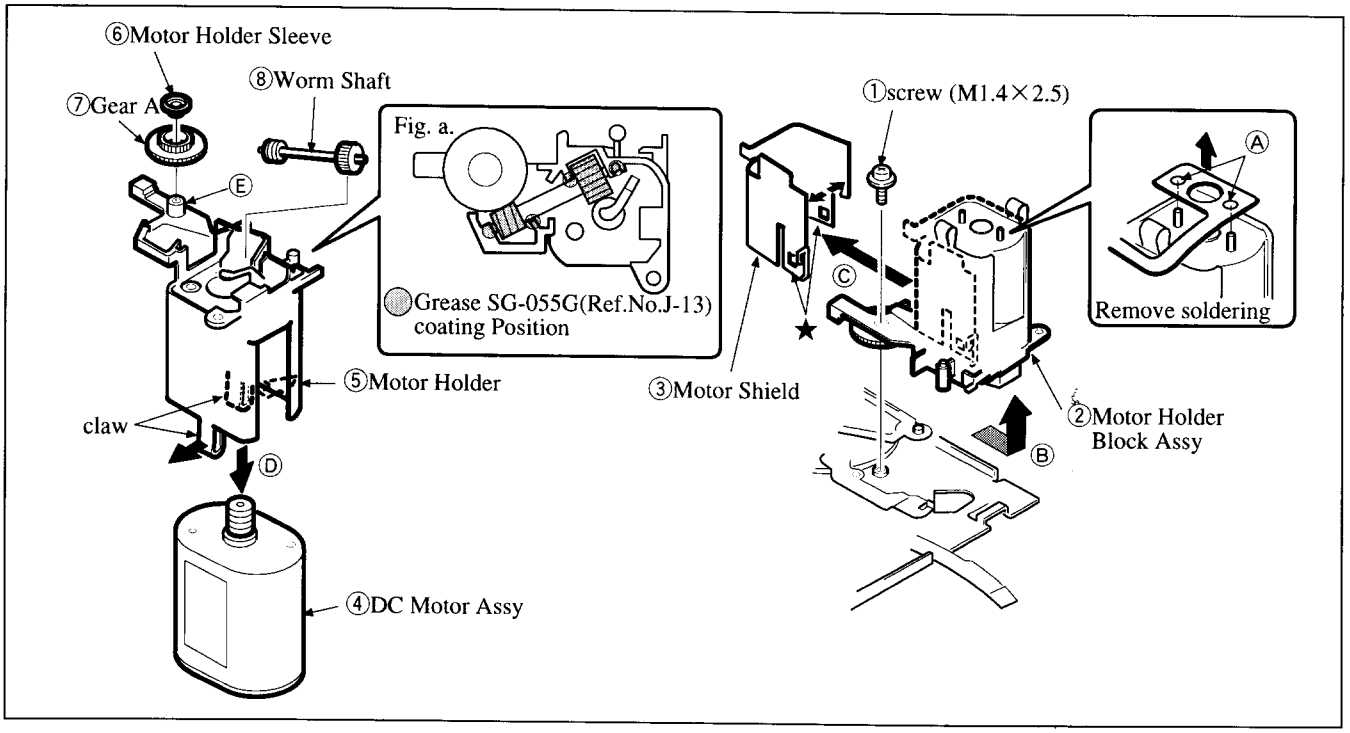


Fig. 17

3-12. Tension Regulator Plate 2, Relay Gear, M Slider Assy (Refer to Fig. 18)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC motor referring to section 3-11.
8) Remove the Tension Regulator Plate 2 ①.
9) Remove the Relay Gear ②.
10) Remove the two washers ③. Remove the M Slider Assy ④. At the point, confirm that the LS Roller ⑤ is not dropped.

2. Precautions During Re-Assembly

1) Before attaching the M Slider Assy ④, coat the LS Roller Shaft Ⓐ on the back of the M Slider Assy, the Pinch Press Plate Shaft Ⓑ and the mechanism chassis M Slider Axis Ⓒ with grease SG-055G (Ref. No. J-13). (Refer to Fig. b)
2) While confirming the phase-determining holes, attach the M Slider Assy ④ while paying attention to the claw.
3) Attach the Tension Regulator Plate 2 ① inside the Tension Regulator Plate. (Refer to the asterisk * Marked portion of Fig. a)
4) Before attaching the Relay Gear ②, coat the mechanism chassis Relay Gear Axis Ⓓ with grease SG-055G (Ref. No. J-13).

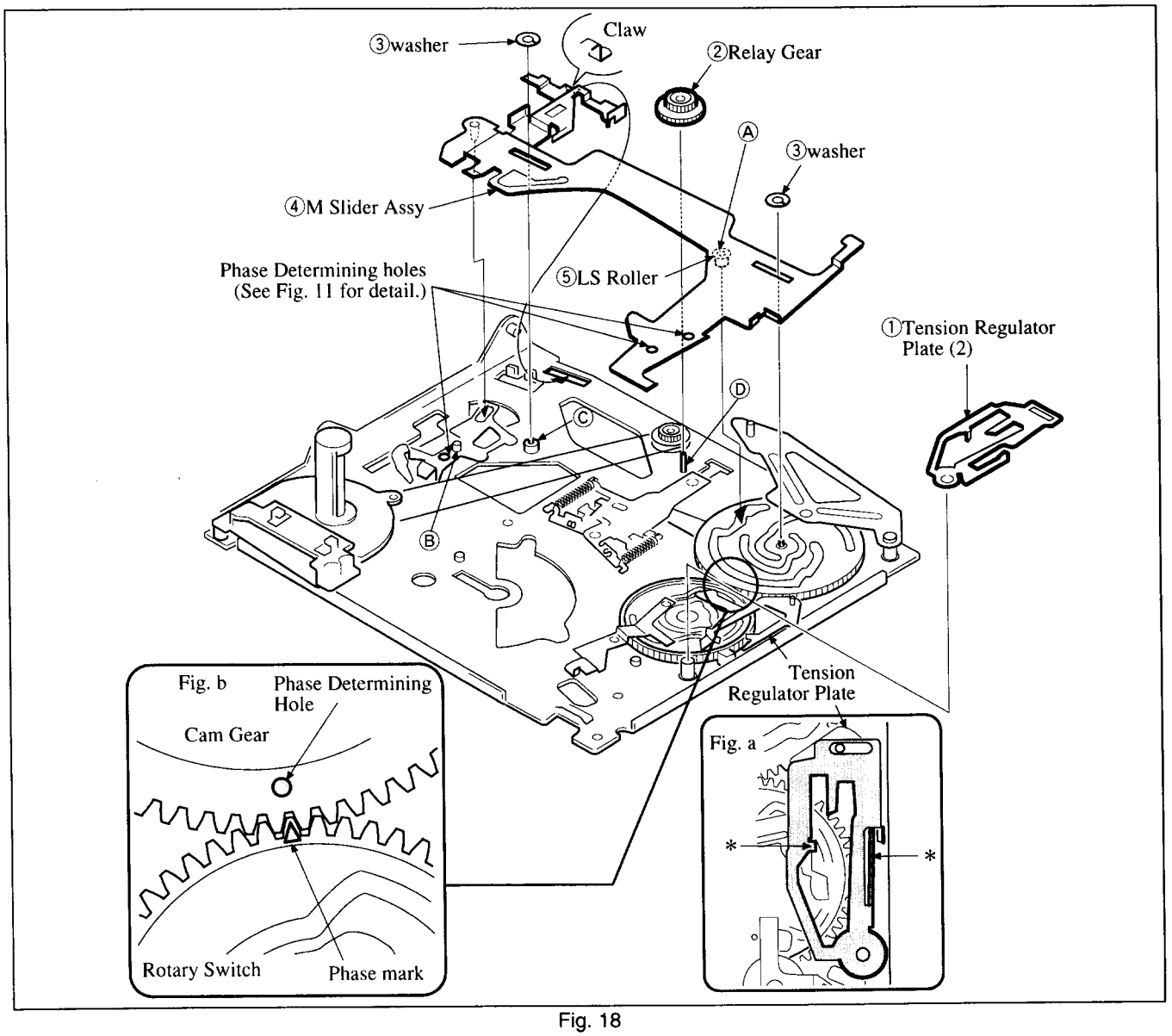


Fig. 18

3-13. LS Arm, HC Drive Arm, Pinch Press Plate, Tension Regulator Plate (Refer to Fig. 19)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm ①. At this point, confirm that the LS Roller ② is not dropped.
10) Remove the HC Drive Arm ③, Pinch Press Plate ④ and Tension Regulator Plate ⑤.

2. Precautions During Re-Assembly

1) Before attaching the captioned parts, confirm that phases of the Cam Gear and the Rotary Switch agree. (See Fig. a.)
2) Insert the dowel of the Tension Regulator Plate ⑤ into the groove outside the rotary switch.
3) Before attaching the Pinch Press Plate ④, check for grease on the mechanism chassis Pinch Press Plate Shaft Ⓐ. If grease cannot be found, coat it with grease SG-055G (Ref. No. J-13). After attaching the Pinch Press Plate ④, align its phase hole until it agrees with the phase-determining hole on the mechanism chassis.
4) Insert the dowel of the HC Drive Arm ③ into the groove inside the rotary switch.
5) Before attaching the LS Arm ①, coat the LS roller shaft of the LS Arm ① with grease SG-055G (Ref. No. J-13).

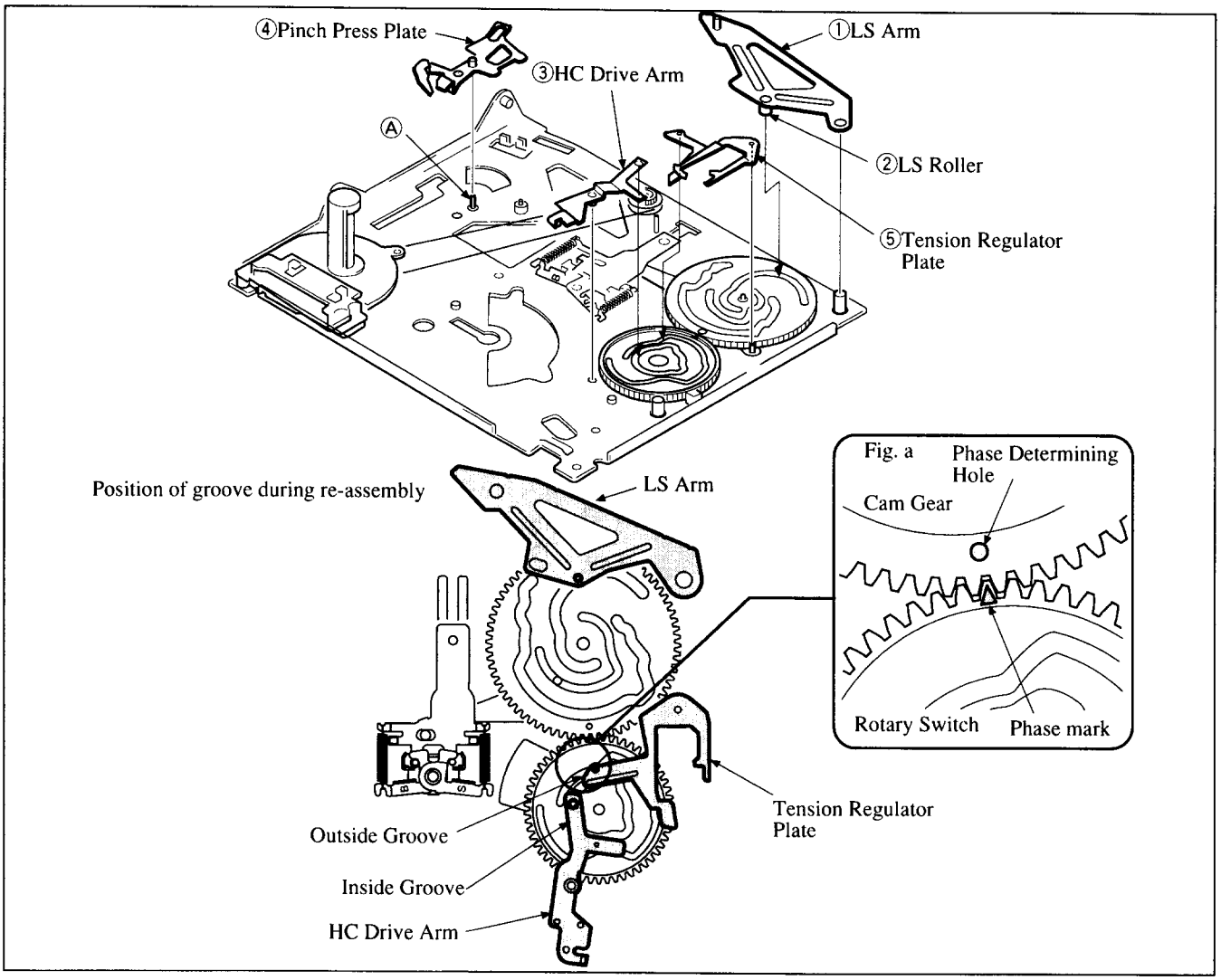


Fig. 19

3-14. Cam Gear (Refer to Fig. 20)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear ①.

2. Precautions During Re-Assembly

1) Before attaching the Cam Gear ①, align the phase mark on the rotary switch until it agrees with the phase-determining hole Ⓐ on the mechanism chassis, and align the GL Arm's phase mark Ⓑ until it agrees with the phase-determining hole Ⓐ on the mechanism chassis. Coat the mechanism's chassis Gear Axis Ⓐ with grease SG-055G (Ref. No. J-13).
2) Attach the Cam Gear ① so that its phase hole agrees with the phase mark on the rotary switch. (Refer to Fig. a)
3) After the Cam Gear ① is attached, coat the GL Arm Axis Block of the cam gear with grease SG-055G (Ref. No. J-13).

Reference : The phase marks of the Cam Gear and Rotary Switch can also be checked from the rear side of mechanism chassis. It means that the phase can be confirmed after mechanism deck is fully re-assembled.

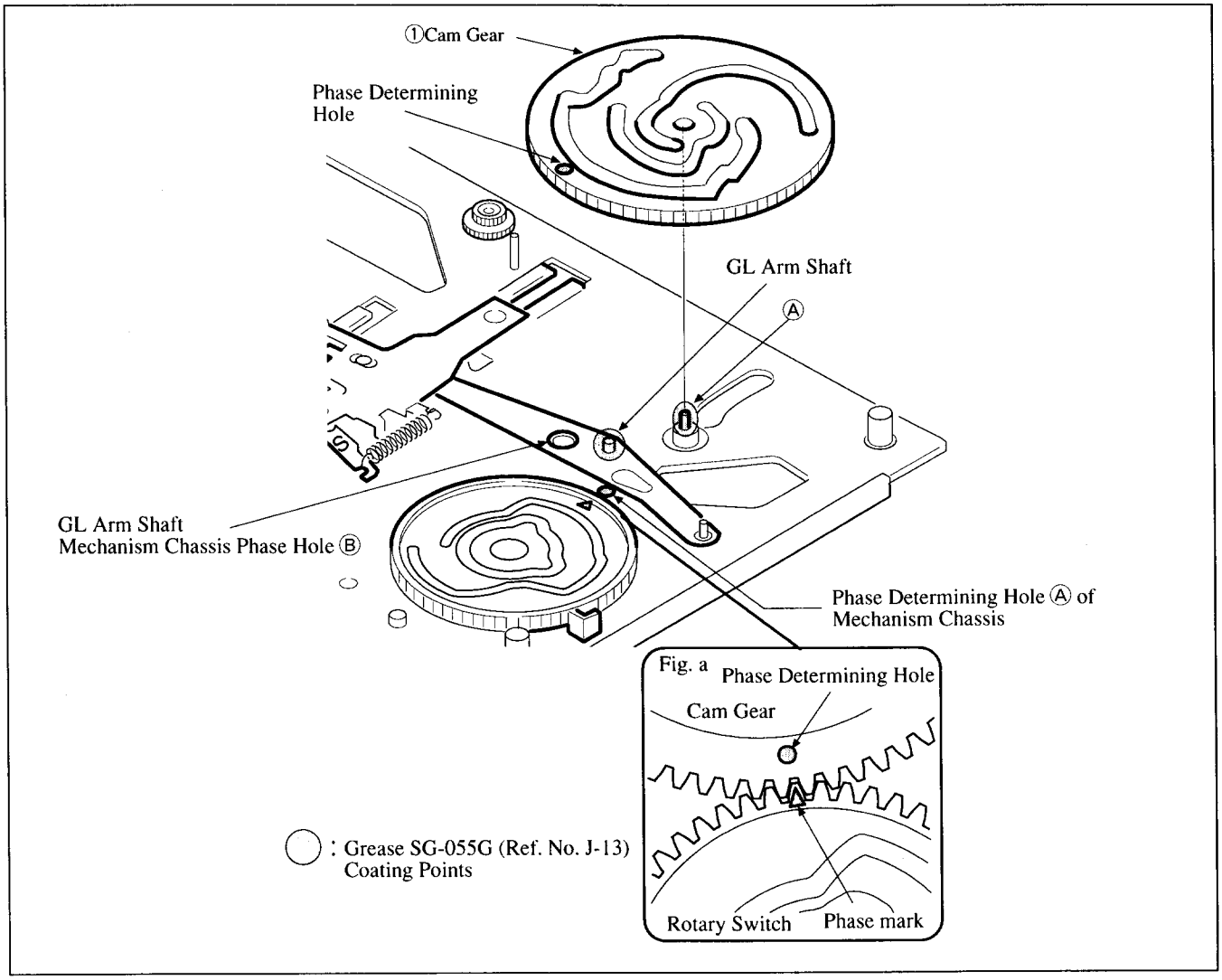


Fig. 20

3-15. GL Slider Assy, GL Arm (Refer to Fig. 21)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove the GL Slider Assy ① by sliding it in the direction of the arrow Ⓐ.
12) Remove the GL Arm ②.

2. Precautions During Re-Assembly

1) The Tension Spring T③ is colored black and the Tension Spring S④ is colored silver.
2) Coat the position shown in Fig. a of the GL Slider Assy ① with grease SG-055G (Ref. No. J-13).
3) Coat the four points Ⓑ where GL slider is attached on the mechanism chassis with grease SG-055G (Ref. No. J-13).
4) After attaching the GL Arm ② and the GL Slider Assy, align the GL arm phase hole until it agrees with the phase-determining hole on the mechanism chassis.

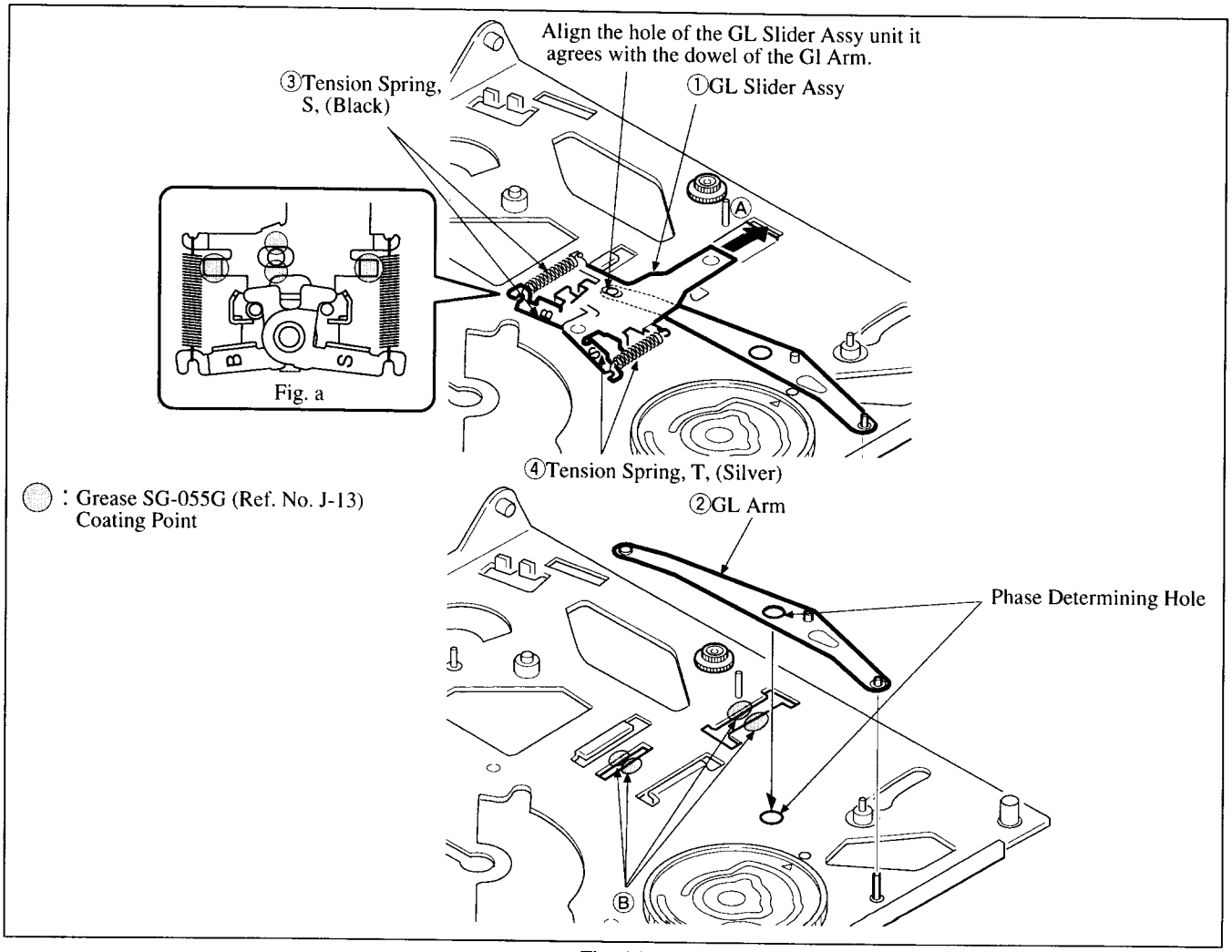

Align the hole of the GL Slider Assy unit it agrees with the dowel of the Gl Arm.
③Tension Spring, S, (Black)
①GL Slider Assy
Ⓐ
Fig. a
④Tension Spring, T, (Silver)
: Grease SG-055G (Ref. No. J-13) Coating Point
②GL Arm
Phase Determining Hole
Ⓑ

Fig. 21

3-16. Rotary Switch (Refer to Fig. 22)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm, Tension Regulator Plate, HC Drive Arm and Pinch Press Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove soldering the portion Ⓐ on the rear of the Rotary Switch. (Pay attention at this moment that the GL Slider and GL Arm do not drop.)
12) While lifting up the portion Ⓑ about 1 mm (pay attention not to break it), hold the portion Ⓒ and turn it in the direction of the arrow Ⓓ to remove the Rotary Switch.

2. Precautions During Re-Assembly

1) Before attaching the Rotary Switch by soldering on the FP-220 board, insert the portion Ⓑ dowel into the hole on the mechanism chassis. Confirm that the three claws are engaged with the mechanism chassis.

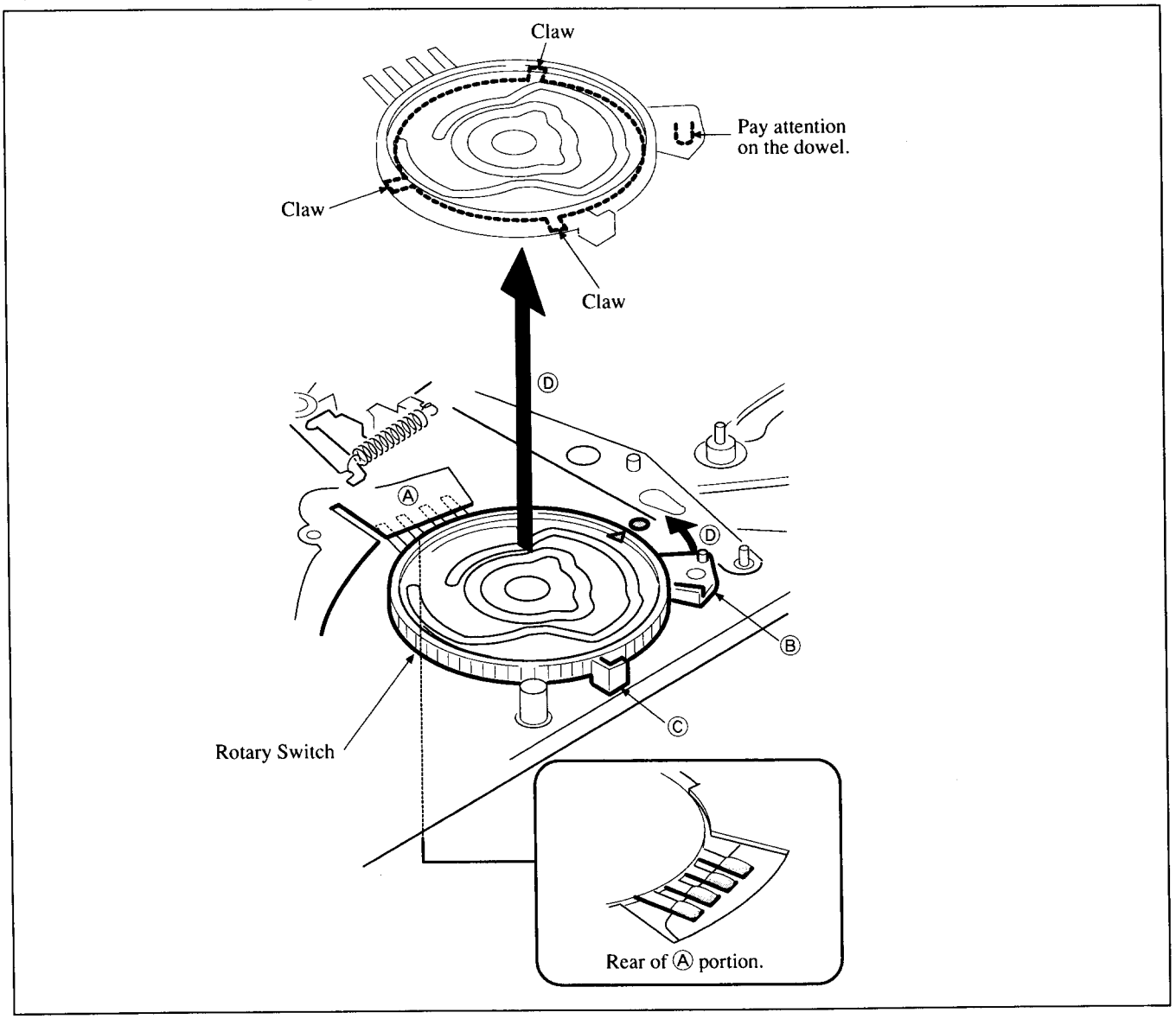


Fig. 22

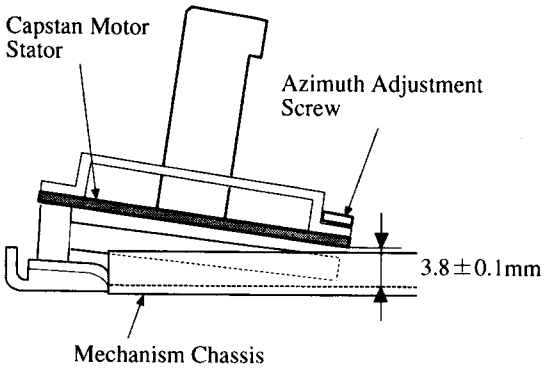
3-17. Capstan Motor (Refer to Fig. 23)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the Pinch Press Plate referring to section 3-13.
10) Remove the screw (M 1.4×6.7) ① and remove the Flexible Board Holder ②.
11) Remove the two screws (M 1.4×6.7) ③ and remove the Capstan Motor ④, Timing Belt ⑤ and Capstan Spacer ⑥.
12) Remove the washer ⑦ and remove the Changer Gear ⑧.

2. Precautions During Re-Assembly

1) Confirm that the timing belt is not twisted.
2) Do not touch the capstan with bare hand.
3) Lubricate the mechanism chassis's Change Gear shaft Ⓐ.
4) After attaching the Capstan Motor, perform the capstan azimuth adjustment.



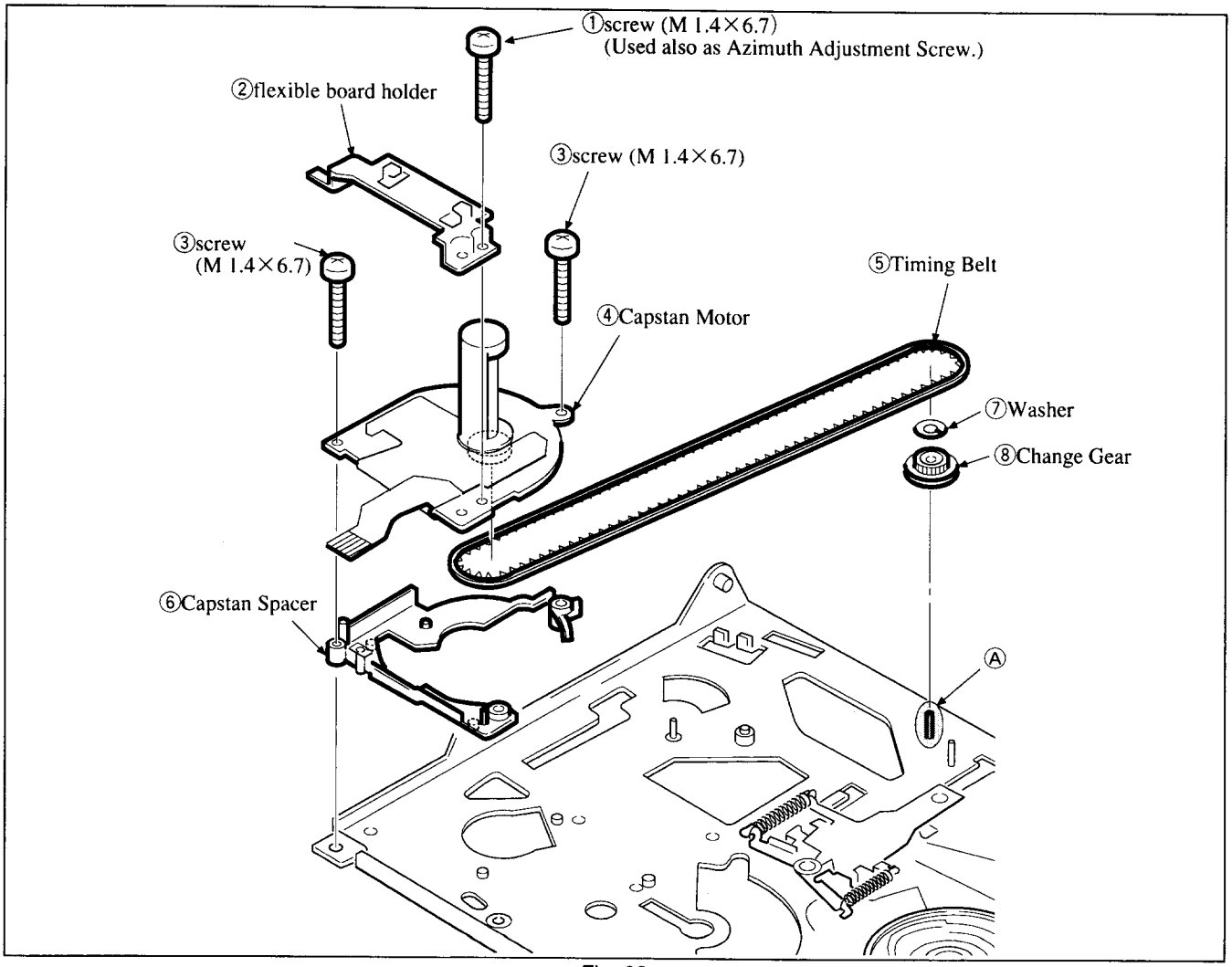


Fig. 23

3-18. Tension Regulator Position Adjustment (Refer to Fig.24)

1. Adjustment Procedure

1) Insert a cassette Tape and run the Tape in PB mode.
2) While tape is running, confirm that the distance between the LS Chassis and TG-1 Guide's top flange is 8.3mm.
3) If not, proceed to step 4).
4) Loosen the screw ① (M 1.4×3).
5) If the TG-1 Guide is located inside the specified position, move position of the Tension Regulator Band Assy using the FWD B.T. Adjustment tool screwdriver (Ref. No. J-9) as shown in the direction of the arrow Ⓐ. If it is located outside, move it in the direction of the arrow Ⓑ.
6) Tighten the screw ① (M 1.4×3).

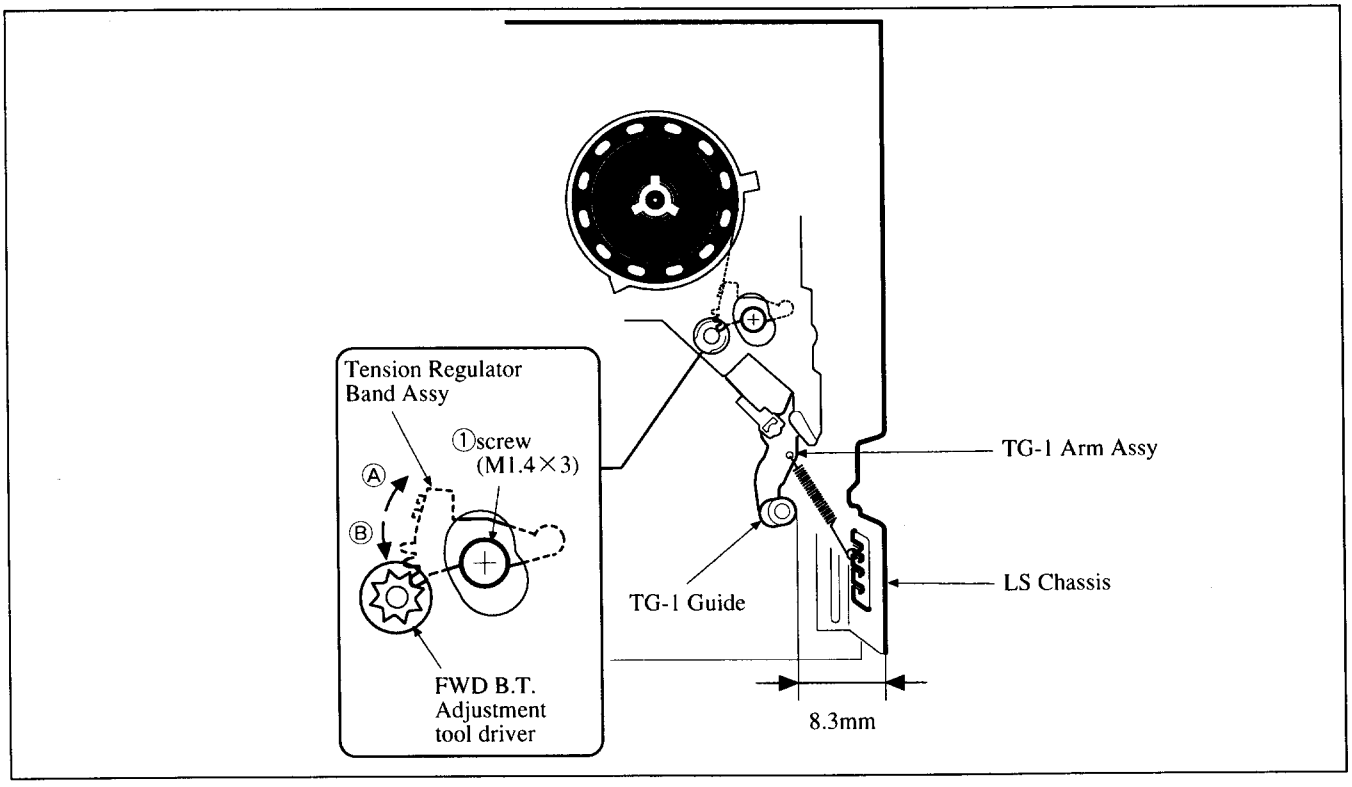


Fig.24

3-19. FWD Tape Hold-Back Tension Adjustment (Refer to Fig. 25)

1. Adjustment Procedure

1) Insert the torque measurement cassette to the machine.
2) Put the machine in the FWD mode. Confirm that the reading on the S side is in the range from 8.0 to 10.5 g•cm. If the reading is outside the specification range, make the following adjustments.
3) If the reading is higher than the specification, change the TG-1 Tension Spring to the side Ⓐ.
4) If the reading is lower than the specification, change the TG-1 Tension Spring to the side Ⓑ.

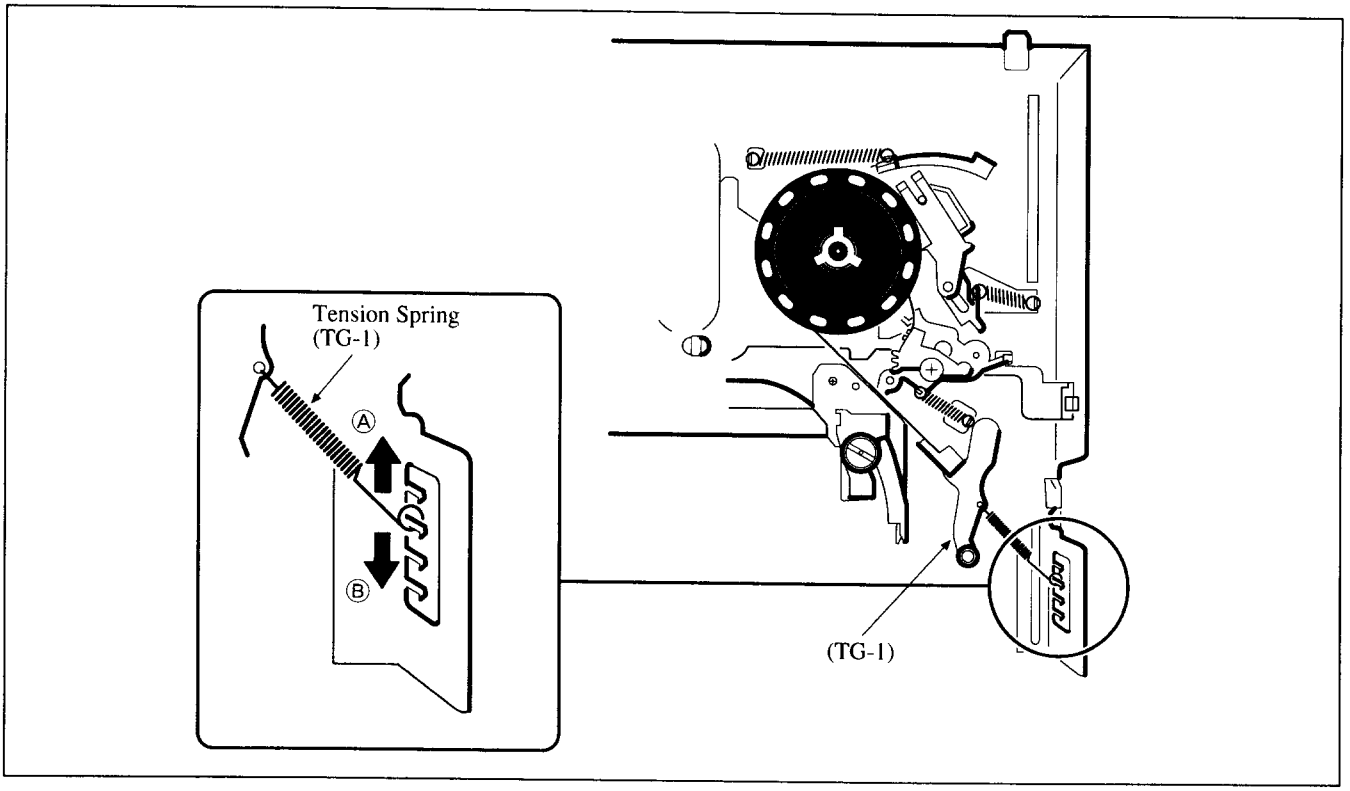


Fig. 25

4. TAPE PATH ADJUSTMENT

Purpose: Adjusts the head linearity.

Adjustment Error: Noise appears on top and bottom of display when playing back the tape recorded by other machines.

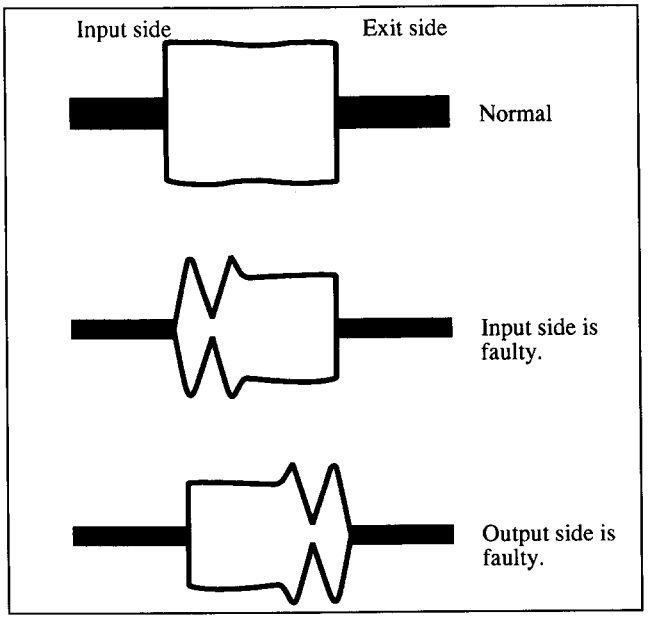


Fig. 26

4-1. Preparations for Adjustments

1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
3) Establish the PATH mode using the adjustment remote commander (Track Shift mode)* to cancel auto tracking.
4) Connect an oscilloscope.
   CH1: Test connector PB RF terminal
   External trigger: Test connector PB SWP terminal
5) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
6) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
   If it not flat, perform the following section 4-2 until it is flat.
7) After completing the adjustment, release the PATH mode (Track Shift mode).*.

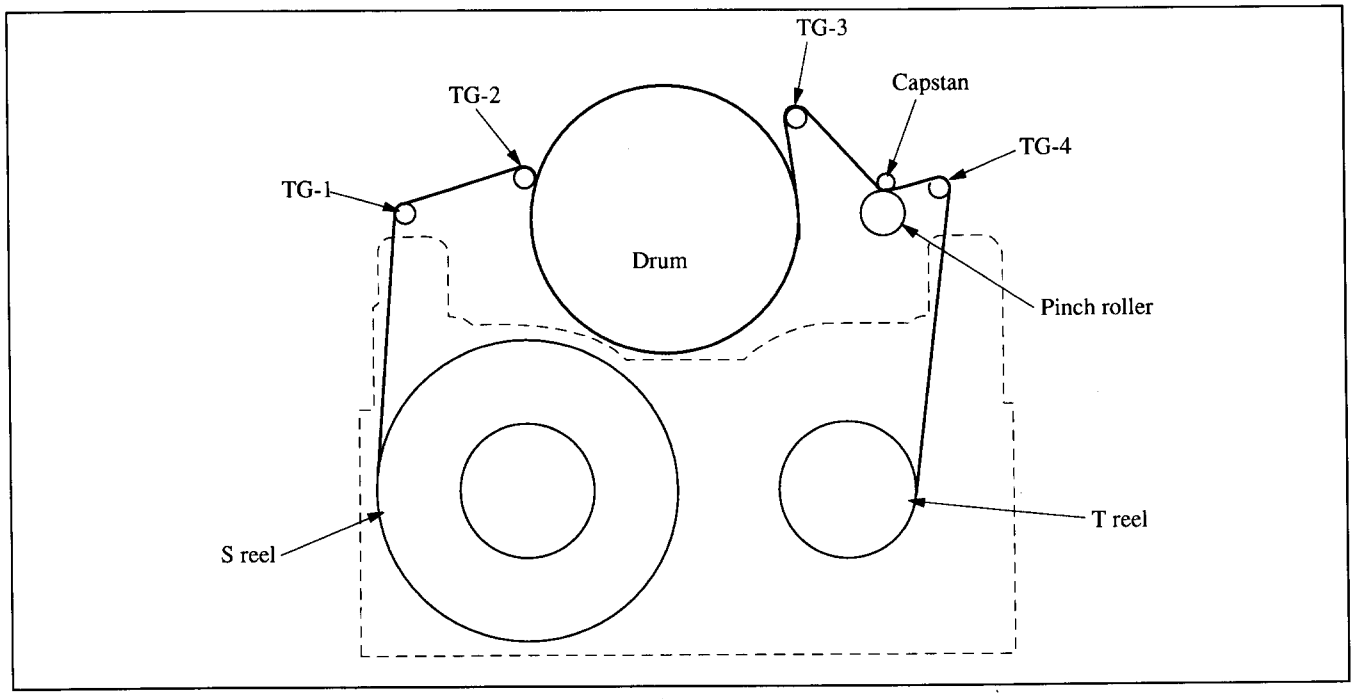


Fig. 27

* How to enter and exit the Track Shift mode. (In the case of CCD-TR420E/TR440E)

Entering the Track Shift mode

1. Select page : 6, address : 00 set data : 01 and press the PAUSE button.
2. Select page : 7, address : 01 set data : 03 and press the PAUSE button.

Exitting the Track Shift mode

1. Select page : 7, address : 01 set data : 00 and press the PAUSE button.
2. Select page : 6, address : 00 set data : 00 and press the PAUSE button.

4-2. Tracking Adjustment (Refer to Fig. 28.)

1) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
2) Adjust the tape guide No. 2 until the input side waveform becomes flat.
3) Adjust the tape guide No. 3 until the input side waveform becomes flat.

☆ Zenith adjustment screws for the TG-2 and TG-3 do not need to be adjusted.

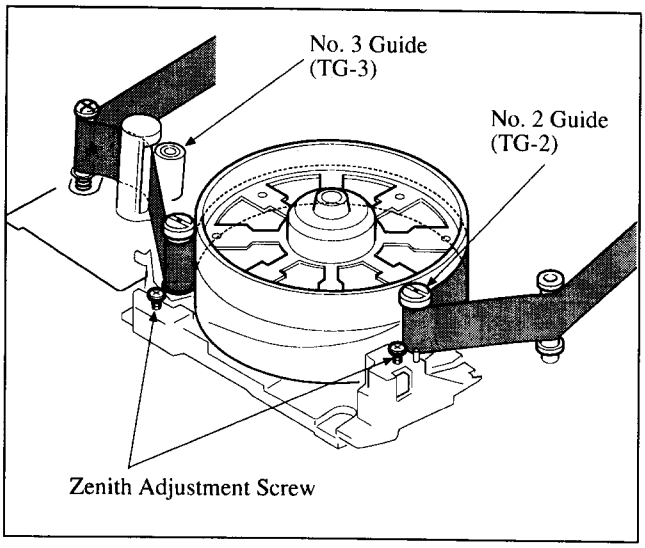


Fig. 28

4-3. No. 4 Guide (TG-4) Adjustment (Refer to Fig. 29.)

1) Playback a tape in REV mode.
2) Confirm that tape slack does not occur in between the guide No. 3 (TG-3) ① and Capstan ②. If tape slack is found, turn the height adjustment screw ④ of the Guide No. 4 (TG-4) ③ until tape slack is removed.
3) Playback a tape in FWD mode. Confirm that tape slack does not occur in between the guide No. 4 (TG-4) ③ and capstan ②. (Specification = 0.5 mm or less) If tape slack of more than 0.5 mm is found, turn the TG-4 nut ④ until the slack is 0.5 mm or less. Playback tape in REV mode and confirm that tape slack in between the guide No. 3 (TG-3) ① and capstan ② is 0.3 mm or less, the adjustment is complete.

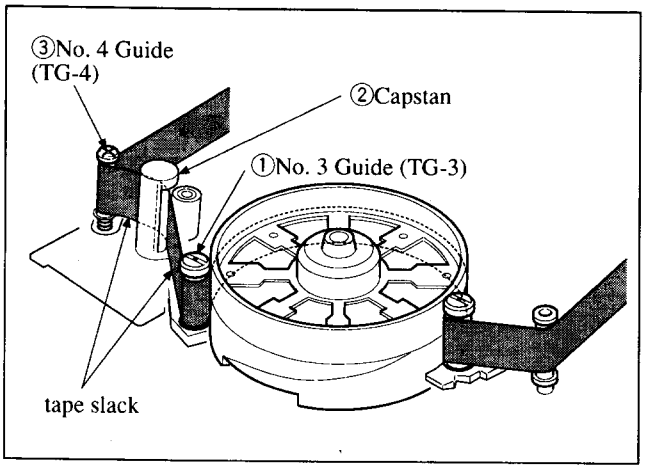


Fig. 29

4-4. CUE, REV Waveforms Check (Refer to Fig. 30.)

1) Playback the tracking alignment tape in REV mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform sections "4-2. Tracking Adjustment" and section "4-3. No. 4 Guide Adjustment".
2) Playback the tracking alignment tape in CUE mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform section "4-2. Tracking Adjustment".

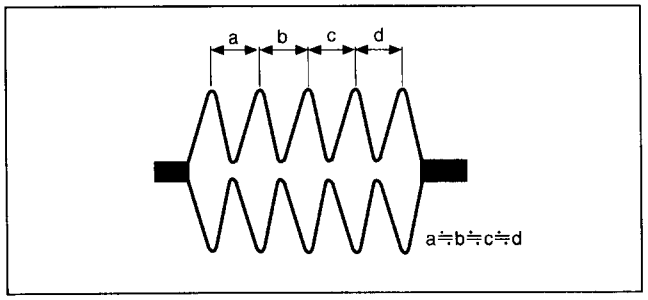


Fig. 30

4-5. Checks After Adjustments

4-5-1. Tracking Check

1) Confirm that amplitude of the RF waveform decreases to about 3/4 when the machine enters the PATH mode. (Refer to Fig. 31)
2) Confirm that the minimum amplitude (EMIN) of the RF waveform is 65 % or more of the maximum amplitude (EMAX). (Refer to Fig. 32)
3) Confirm that the RF waveform does not have too much fluctuation. (Refer to Fig. 33)

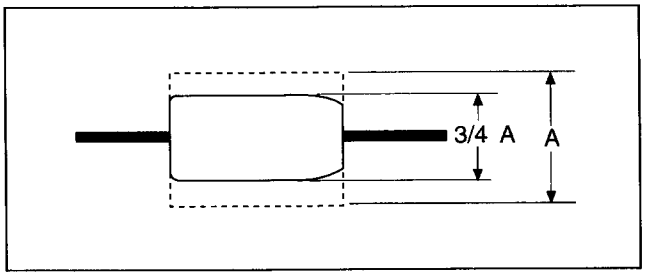


Fig. 31

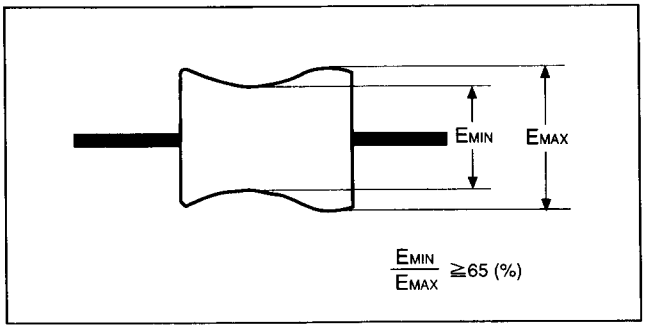


Fig. 32

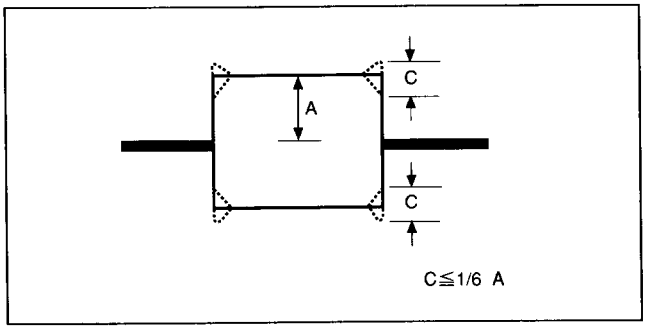


Fig. 33

4-5-2. Waveform Build-up Check (Refer to Fig. 34.)

1) Playback the tracking alignment tape.
2) Turn OFF the Track Shift mode.
3) Eject the tape once, insert and load the tape.
4) Start playing back the tape and confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
5) Playback the tape in CUE/REV and FF/REW modes respectively. Confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
6) Repeat the check items 3) to 5) again.

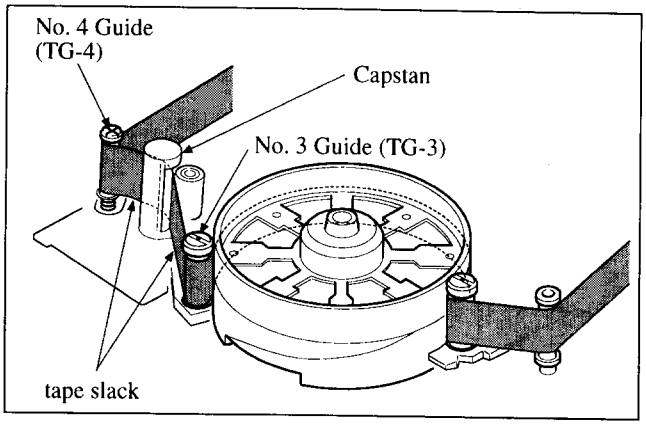


Fig. 34

4-5-3. Tape Pass Check (Refer to Fig. 35.)

1) Insert a thin video tape such as P6-120MP (NTSC) or P5-120MP (PAL). Playback the thin tape. Confirm that there is no clearance or curl of 0.3 mm or more at the following points: Upper flange of guide No. 2, upper flange of guide No. 3, upper and lower flanges of guide No. 4.
2) Confirm that there is no clearance or curl of 0.3 mm or more at each tape guide when the FF button is pressed from the playback mode to enter the CUE mode, and when the REW button is pressed from the playback mode to enter the REV mode.

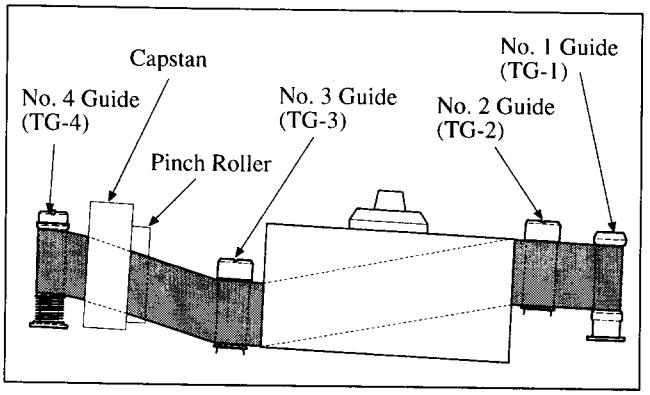
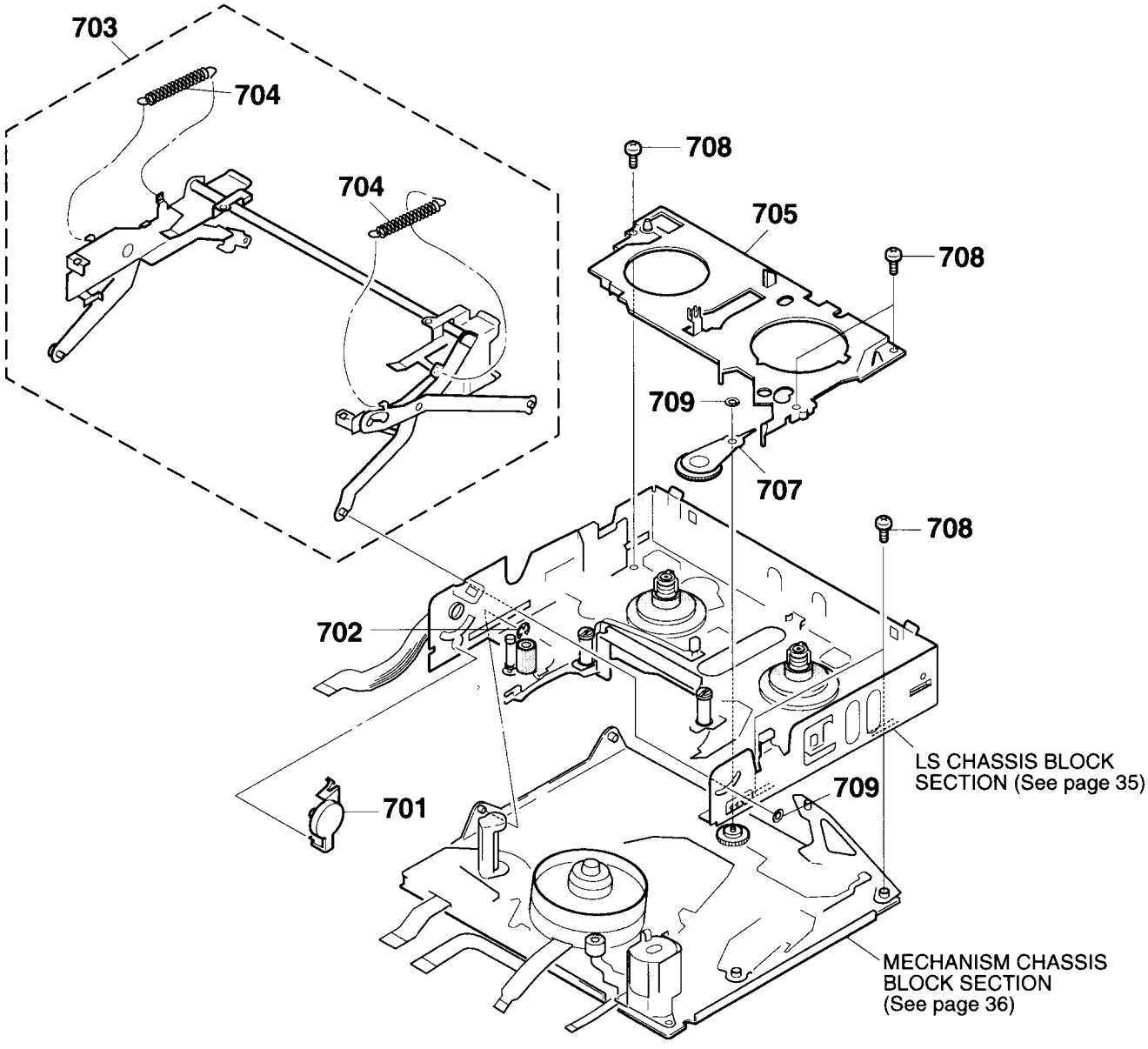
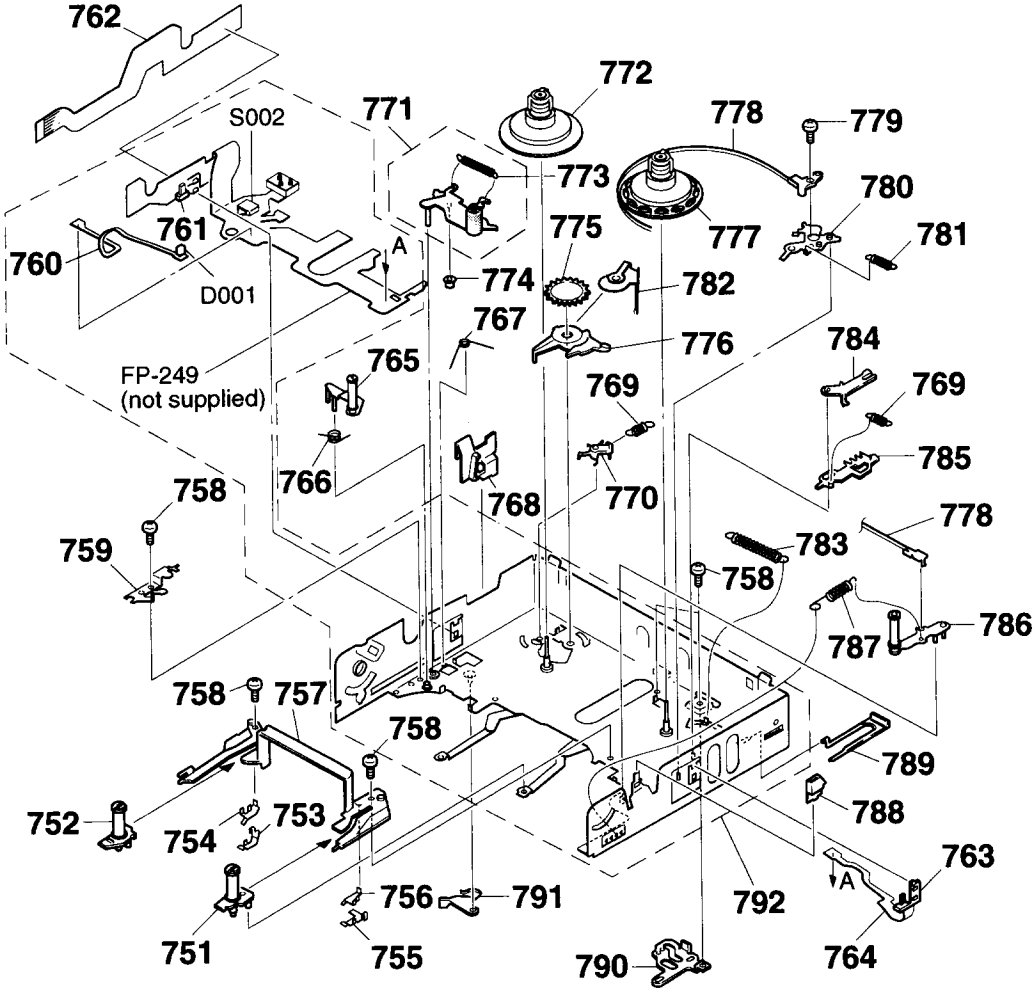


Fig. 35

5-1. Cassette Compartment Block Section



5-2. LS Chassis Block Section



5-3. Mechanism Chassis Block Section